

**RRB ALP CBT-1**  
**Answers with Explanation-13**

1. (C) FG : UT :: HI : **SR**  
 $F(6) + U(21) = G(7) + T(20) = 27$   
 $H(8) + S(19) = I(9) + R(18) = 27$

2. (C)  $\frac{4}{\times 11} : \frac{44}{\times 11} :: \frac{7}{\times 11} : \frac{77}{\times 11}$

3. (D)  $\frac{E}{\text{Reverse}} \frac{V}{\text{Reverse}} \frac{G}{\text{Reverse}} \frac{T}{\text{Reverse}} \frac{J}{\text{Reverse}} \frac{Q}{\text{Reverse}} \frac{M}{\text{Reverse}} \frac{O}{\text{Reverse}}$

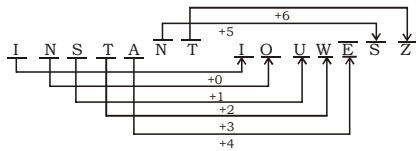
4. (B)  $4246 \Rightarrow 4 \times 6 = 24$

**8314**  $\Rightarrow 8 \times 4 \neq 31$

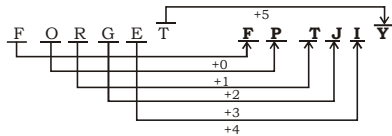
$9546 \Rightarrow 9 \times 6 = 54$

$7284 \Rightarrow 7 \times 4 = 28$

5. (D) As,



So,



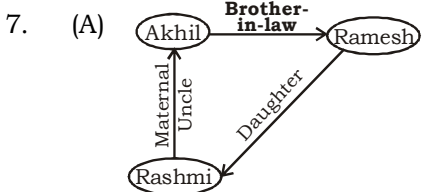
6. (C) 8 C 45 D 180 B 9 A 11

After changing the **signs** as per the given detail,

$$8 - 45 + 180 \div 9 \times 11$$

$$= 8 - 45 + 20 \times 11$$

$$= 8 - 45 + 220 = \mathbf{183}$$



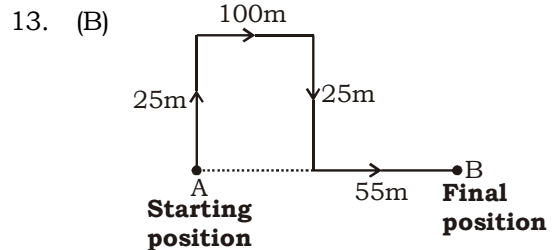
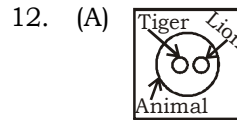
8. (B) As nothing is mentioned about separate earnings of husbands and wives.



11. (D)  $99 \times 15 = 1485$

$$31 \times 17 = 527$$

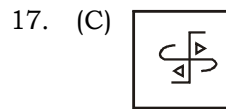
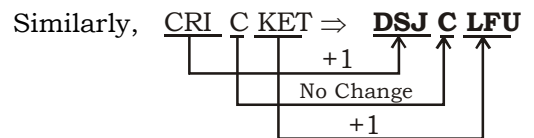
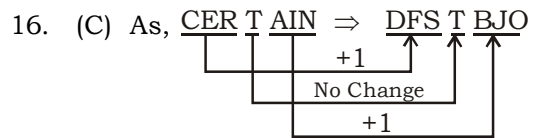
$$91 \times 18 = \mathbf{1638}$$



$\therefore$  Required distance =  $100 + 55$   
 $= \mathbf{155 \text{ m}}$

14. (B) **AB / AABB / AA AB BB**

15. (B) Accompany  $\rightarrow$  Accumulation  $\rightarrow$  Accuse  $\rightarrow$  Accustom.



18. (C) Let the total number of Books =  $x$   
 According to the question,

$$x \times \frac{60}{100} \times \frac{20}{100} = 300 \Rightarrow x = 2500$$

19. (B) Total age of all boys along with the teacher  $\rightarrow (24 + 1) \times 15 = 375$  years

Total age of all boys excluding the teacher =  $24(15 - 1) = 336$  years

$\therefore$  The age of the teacher =  $375 - 336 = 39$  years

20. (A)  $(3a + 1)^2 + (b - 1)^2 + (2c - 3)^2 = 0$

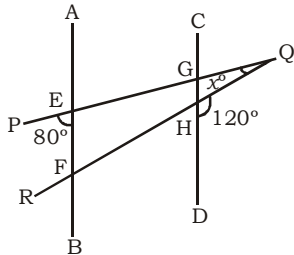
$$\begin{aligned} \Rightarrow 3a + 1 &= 0 \\ \Rightarrow 3a &= -1 \\ b - 1 &= 0 \\ \Rightarrow b &= 1 \\ 2c - 3 &= 0 \\ \Rightarrow 2c &= 3 \\ \therefore 3a + b + 2c &= -1 + 1 + 3 = 3 \end{aligned}$$

21. (C)

	Vivek	Apurva	Kunal
Same	$7 \times 13$	$10 \times 13$	
	$13 \times 7$		$10 \times 7$
	91	130	70

$$\begin{aligned} \text{Required percentage} &= \frac{60}{130} \times 100 \\ &= 46.15\% \end{aligned}$$

22. (D)



$$\begin{aligned} \angle PGH = 80^\circ &\Rightarrow \angle QGH = 100^\circ \\ \angle QHD = 120^\circ &\Rightarrow \angle CHQ = 60^\circ \\ \therefore \angle x + 100^\circ + 60^\circ &= 180^\circ \\ \Rightarrow x &= 20^\circ \end{aligned}$$

23. (A)  $60 \times 60 \times \frac{y}{100} = 1 \text{ minute } 12 \text{ seconds}$

$$\begin{aligned} 36y &= 72 \text{ seconds} \\ y &= 2 \end{aligned}$$

24. (A) Let the cost price of each watch be `x  
 $\therefore$  cost price of 14 watches = 14x  
 and selling price of 14 watches = `6300  
 ATQ,  
 $6300 - 14x = 4x$   
 $\Rightarrow 18x = 6300$   
 $x = `350$

25. (C)

Mixture - I		Mixture - II
$\frac{4}{7}$		$\frac{2}{5}$
	$\frac{1}{2}$	
$\frac{1}{2} - \frac{2}{5}$		$\frac{4}{7} - \frac{1}{2}$
$\frac{1}{10}$	:	$\frac{1}{14}$

$$\therefore \text{Required ratio} = 7 : 5$$

26. (D)  $25\% = \frac{1}{4}, 30\% = \frac{3}{10}$

	old	new
Fee $\rightarrow$	4	5
Viewers $\rightarrow$	10	7
	40	35

$$\therefore \text{Percentage decrease in revenue}$$

$$\begin{aligned} &= \frac{5}{40} \times 100 \\ &= 12\frac{1}{2}\% \end{aligned}$$

27. (D)  $\angle AOC = \angle BOD$

$$\therefore \angle AOC = 40^\circ$$

ATQ,

$$\angle BOE = 30^\circ$$

$$\therefore \angle COD + \angle DOB + \angle BOE = \text{Reflexive } \angle COE$$

$$\therefore 180^\circ + 40^\circ + 30^\circ = \text{Reflexive } \angle COE$$

$$\therefore \angle COE = 250^\circ$$

28. (C) Total distance = 60 + 50 = 110 kms

$$\text{Total time} = \frac{60}{40} + \frac{50}{30} = \frac{19}{6} \text{ kms}$$

$$\therefore \text{Average speed} = \frac{110}{\frac{19}{6}} = \frac{660}{19}$$

$$= 37\frac{14}{19} \text{ km/hours}$$

29. (C) Third proportional =  $\frac{36 \times 36}{16} = 81$

30. (C) Let the third proportional be x

$$\therefore 16 : 36 :: 36 : x$$

$$\begin{aligned} \Rightarrow 16 \times x &= 36 \times 36 \\ x &= \frac{36 \times 36}{16} \end{aligned}$$

$$= 81$$

31. (B) 50 P : 25 P : 10 P

$$\text{Ratio} - \quad 5 \quad : \quad 9 \quad : \quad 4$$

$$\text{Amount} - \quad `2.50 \quad \quad `2.25 \quad \quad `0.40 = 5.15$$

$$\begin{aligned} &\downarrow \times 40 \\ &206 \end{aligned}$$

$$\text{Number of 50 P coins} - 5 \times 40 = 200$$

$$\text{Number of 25 P coins} - 9 \times 40 = 360$$

$$\text{Number of 10 P coins} - 4 \times 40 = 160$$

32. (B) S.P = C.P + Profit  
 S.P of 4 articles = C.P of 4 articles + Profit on 4 articles  
 C.P 6 articles = C.P of 4 articles + Profit on 4 articles  
 Profit on 4 articles = C.P of 2 articles.  
 $\therefore \text{Profit \%} = \frac{\text{Profit}}{\text{C.P}} \times 100$   
 $= \frac{\text{C.P of 2 articles}}{\text{C.P of 4 articles}} \times 100$   
 $= 50\%$
33. (D) Here,  $(20 - 14) = 6$   
 $(25 - 19) = 6$   
 $(35 - 29) = 6$   
 $(40 - 34) = 6$   
 $\therefore$  Required number = (L.C.M of 20, 25, 35, 40) - 6 = 1394
34. (B) Production of company AVC in 2012 = 360 crore units  
 Average production of AVC over the given years =  $\frac{1970}{6}$   
 Hence, required per cent =  $\frac{360 \times 6}{1970} \times 100$   
 $= 109.64\% \approx 110\%$
35. (C) Approximate percent increase or decrease in production from the previous year for SIO are as follows :
- 2010 =  $\frac{2}{85} \times 100 = 2.35\%$   
 2011 =  $\frac{2 \times 100}{87} = 2.29\%$   
 2012 =  $\frac{2 \times 100}{89} = 2.24\%$   
 2013 =  $\frac{1 \times 100}{91} = 1.09\%$   
 2014 =  $\frac{4 \times 100}{92} = 4.35\%$   
 Hence, in the year 2014, SIO registered maximum increase in productions over the previous year.
36. (A) Given that  $a = 20$  km/h,  $b = 4$  km/h  
 $t_1 = 30$  min,  $t_2 = 10$  min  
 According to the formula

- Required Distance =  $(t_1 - t_2) (a + b) \frac{20}{4}$   
 $= \frac{(30 - 10)}{60} (20 + 4) \frac{20}{4}$   
 $= \frac{20}{60} \times 24 \times \frac{20}{4}$   
 $= 5 \times 8 = 40$  km
37. (D) If  $\rightarrow x = 7$   
 $x^5 - 8x^4 + 8x^3 - 9x^2 + 7x + 5$   
 split it in form of  $x$   
 $x^5 - 7x^4 - x^4 + 7x^3 + x^3 - 7x^2 - 2x^2 - x^2 + 7x + 5$   
 Put  $x$  in the place of 7  
 then  $x^5 - x^5 - x^4 + x^4 + x^3 - x^3 - x^2 - x^2 + x^2 + 5 - x^2 + 5$   
 $- 49 + 5 = - 44$
38. (A) Required marked price  
 $= 3060 \times \frac{100}{80} \times \frac{100}{85} = ₹ 4500$
39. (A) Let the angle be  $\theta$ .  
 $\theta + 3\theta = 180^\circ$   
 $4\theta = 180$   
 $\theta = 45^\circ$

**RRB ALP - 13 (ANSWER KEY)**

- |         |         |         |         |
|---------|---------|---------|---------|
| 1. (C)  | 21. (C) | 41. (B) | 61. (A) |
| 2. (C)  | 22. (D) | 42. (C) | 62. (C) |
| 3. (D)  | 23. (A) | 43. (C) | 63. (A) |
| 4. (B)  | 24. (A) | 44. (B) | 64. (C) |
| 5. (D)  | 25. (C) | 45. (A) | 65. (C) |
| 6. (C)  | 26. (D) | 46. (C) | 66. (B) |
| 7. (A)  | 27. (D) | 47. (C) | 67. (C) |
| 8. (B)  | 28. (C) | 48. (C) | 68. (A) |
| 9. (B)  | 29. (C) | 49. (A) | 69. (B) |
| 10. (B) | 30. (C) | 50. (A) | 70. (B) |
| 11. (D) | 31. (B) | 51. (D) | 71. (D) |
| 12. (A) | 32. (B) | 52. (B) | 72. (D) |
| 13. (B) | 33. (D) | 53. (C) | 73. (C) |
| 14. (B) | 34. (B) | 54. (A) | 74. (A) |
| 15. (B) | 35. (C) | 55. (B) | 75. (C) |
| 16. (C) | 36. (A) | 56. (A) |         |
| 17. (C) | 37. (D) | 57. (D) |         |
| 18. (C) | 38. (A) | 58. (C) |         |
| 19. (B) | 39. (A) | 59. (A) |         |
| 20. (A) | 40. (C) | 60. (C) |         |