RRB NTPC - PRACTICE SET

Answers with Explanation

1. (a)

2. (b)

Letter	S	T	A	R	K	M	O	B	I	L	E
Code	L	B	F	M	G	T	N	R	S	P	J

∴ BLAME will be written as RPFTJ

3. (a)

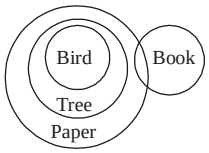
4. (b) $G \xrightarrow{+3} J \xrightarrow{+5} O \xrightarrow{+7} V$

$I \xrightarrow{+3} L \xrightarrow{+5} Q \xrightarrow{+7} X$

$R \xrightarrow{+3} U \xrightarrow{+5} Z \xrightarrow{+7} G$

But $B \xrightarrow{+4} F \xrightarrow{+4} J \xrightarrow{+7} Q$

5. (c)



6. (b)

7. (c)

8. (d)

9. (d)

10. (b) The maximum given ranks for a boy from one side of the queue is 9. So, we first consider a queue of 9 boys.

1 2 3 4 5 6 7 8 9

S A

But in this queue, there are even number of boys between Shikhar and Arun and as such, the middle position or Nikhil's position cannot be ascertained.

Now consider an arrangement of 10 boys in a queue

1 2 3 4 5 6 7 8 9 10

S N A

Hence, minimum number of boys in the queue = 10

(11–12):

The order of reaching office is

S, Q, U, P, T, W, R

11. (b) 12. (d)

13. (d)

14. (c) $4 : \frac{4^3}{2} = 4 : 32$

Similarly $12 : \frac{12^3}{2} = 12 : 864$

15. (b) $2 \xrightarrow{+4} 6 \xrightarrow{+4} 10 \xrightarrow{+4} 14 \xrightarrow{+4} 18$

$E \xrightarrow{+3} H \xrightarrow{+3} K \xrightarrow{+3} N \xrightarrow{+3} Q$

$X \xrightarrow{-1} W \xrightarrow{-1} V \xrightarrow{-1} U \xrightarrow{-1} T$

So 16NU does not fit into the series

16. (b) Using the correct symbols, we have :

Given expression

$= 30 \div 2 + 3 \times 6 - 5$

$= 15 + 18 - 5 = 28$

17. (c)

18. (a)

(19–20):

$Raju^{+} \Leftrightarrow Banu^{-}$

|

$Arjun^{+} \Leftrightarrow Rani^{-}$

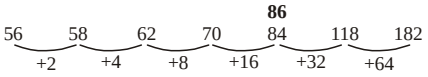
|

$Elamathi^{-} - Divya^{-}$

19. (c)

20. (d)

21. (c)



22. (d)

23. (b)

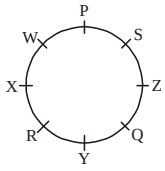
24. (d)

25. (b) $12 \times \frac{18}{3} = 72$ and $16 \times \frac{32}{4} = 128$

Similarly, $14 \times \frac{24}{?} = 112$ $\therefore$? = 3

26. (b)

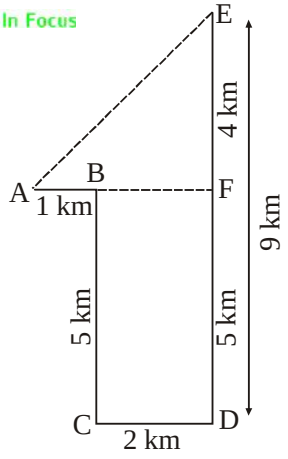
(27–28):



27. (b)

28. (c)

29. (c)



Distance from starting point A to end point E

$= AE = \sqrt{AF^2 + EF^2} = \sqrt{3^2 + 4^2} = \sqrt{25} = 5\text{km}$

30. (d) 21 × 9 + 13 – 7 = 195

31. (d) $3.\overline{36} - 2.\overline{05} + 1.\overline{33}$

$= 3\frac{36}{99} - 2\frac{05}{99} + 1\frac{33}{99}$

$= 3 + \frac{36}{99} - 2 - \frac{5}{99} + 1 + \frac{33}{99}$

$= (3 - 2 + 1) + \left(\frac{36}{99} - \frac{5}{99} + \frac{33}{99}\right)$

$= 2 + \left(\frac{36 - 5 + 33}{99}\right)$

$= 2 + \frac{64}{99} = 2\frac{64}{99} = 2.\overline{64}$

32. (a) Let the numbers be 5x and 7x.

LCM = 5 × 7 × x = 35x

35x = 140

$\Rightarrow x = \frac{140}{35} = 4 = \text{HCF}$

33. (b) Income of the person

$= \text{Rs}\left(120\% \text{ of } \frac{80800}{16}\right)$

$= \text{Rs}\left(\frac{120}{100} \times 5050\right) = \text{Rs } 6060$

34. (d) xyz = 385 HCF = yz = 77

yzw = 1001

$\therefore w = \frac{yzw}{yz} = \frac{1001}{77} = 13$

35. (d)

36. (c) Interest for $1\frac{1}{2}$ years

= ₹ (1067.20 – 1012) = ₹ 55.20

$\therefore$ Interest for $2\frac{1}{2}$ years

$= 55.20 \times \frac{2}{3} \times \frac{5}{2} =$ ₹ 92

$\therefore$ Principal = ₹ (1012 – 92) = ₹ 920

$\therefore \text{Rate} = \frac{\text{SI} \times 100}{\text{Principal} \times \text{Time}}$

$= \frac{92 \times 100}{920 \times \frac{5}{2}} = 4\%$

37. (c) S.P. of one pipe = 12, gain% = 20%

C.P. of this pipe $= \text{Rs}\left(\frac{100}{120} \times 12\right) = \text{Rs } 10$

S.P. of another pipe = Rs 12, loss% = 20%

$\therefore$ C.P. of 2nd pipe $= \text{Rs}\left(\frac{100}{80}\times 12\right) = \text{Rs } 15$

Total C.P. = Rs (10 + 15) = Rs 25,
Total S.P. = Rs (12 × 2) = Rs 24

Loss = Rs (25 – 24) = Rs 1

38. (a) 0.15% of $33\frac{1}{3}\%$ of ₹ 10000

ACHIEVERS In Focus

$= \frac{0.15}{100}\times\frac{100}{300}\times 10000$

= ₹ 5

39. (a) LCM of 4, 5, 6 = 60

$$\begin{array}{r} 60)\,400\,(6 \\ \underline{360} \\ 40 \end{array} \qquad \begin{array}{r} 60)\,800\,(13 \\ \underline{60} \\ 200 \\ \underline{180} \\ 20 \end{array}$$

Total numbers = (13–6) = 7

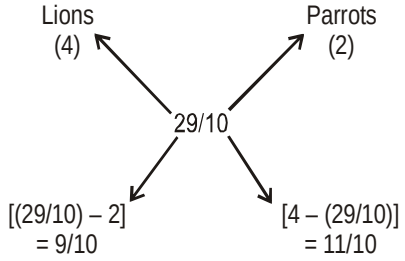
40. (c) $P = P_0\left(1+\frac{R}{100}\right)^T$

ACHIEVERS In Focus

$= 64000\left(1+\frac{5}{200}\right)^3 = 64000\left(\frac{41}{40}\right)^3$

$= \frac{64000\times 41\times 41\times 41}{40\times 40\times 40} = 68921$

41. (a) Average number of legs per head $= \frac{290}{100} = \frac{29}{10}$



$\therefore$ Lions : Parrots = 9 : 11

ACHIEVERS In Focus

Number of Parrots $= \frac{11}{20}\times 100 = 55$

42. (d) CP of 1 egg $= \frac{720}{20\times 12} = ₹\ 3$

$\therefore$ SP of 1 egg $= 3\times\frac{120}{100} = ₹\ 3.60$

43. (c) (A + B + C)'s 1 day's work

ACHIEVERS In Focus

$= \frac{1}{12}+\frac{1}{24}+\frac{1}{36}$

$= \frac{6+3+2}{72} = \frac{11}{72}$

$\therefore$ (A + B + C) together will complete the work in $\frac{72}{11} = 6\frac{6}{11}$ days

44. (a) $\frac{p}{b-c} = \frac{q}{c-a} = \frac{r}{a-b} = K$ (Let)

$\therefore$ p = k (b – c), q = k (c – a), r = k (a – b)

p + q + r

ACHIEVERS In Focus

= k (b – c) + k (c – a) + k (a – b)

= k (b – c + c – a + a – b)

= k × 0 = 0

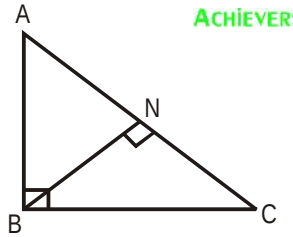
45. (b) C.I. $= 24000\left[\left(1+\frac{5}{100}\right)^3 - 1\right]$

$= 24000 \times \frac{1261}{8000} = ₹\ 3783$

46. (c) 47. (b) 48. (b)

49. (b)

50. (b)



ACHIEVERS In Focus

$BC = \sqrt{10^2-6^2} = \sqrt{100-36} = \sqrt{64} = 8$ cm

Area of ΔABC,

$= \frac{1}{2} \times BC \times AB = \frac{1}{2} \times 8 \times 6 = 24$ sq.cm.

Again,

$\frac{1}{2} \times AC \times BN = 24$

$\Rightarrow \frac{1}{2} \times 10 \times BN = 24 \quad \Rightarrow BN = \frac{24}{5}$

$\therefore NC = \sqrt{BC^2 - BN^2} = \sqrt{64 - \frac{576}{25}} = \frac{32}{5}$ cm

$AN = 10 - \frac{32}{5} = \frac{50-32}{5} = \frac{18}{5}$

$\therefore AN : NC = \frac{18}{5} : \frac{32}{5} = 9 : 16$

51. (b)

52. (a) Speed in still water = x km/h

Speed of stream = y km/h

$\therefore \quad x + y = \frac{1}{\frac{4}{60}} = 15 \qquad x - y = \frac{1}{\frac{10}{60}} = 6$

$\therefore$ Speed of stream $= \frac{1}{2}\left[(x+y)-(x-y)\right]$

$= \frac{1}{2}(15-6) = \frac{9}{2} = 4.5$ km/h

53. (b) Average speed $= \frac{2xy}{(x+y)}$ km/hr

$= \frac{2 \times 15 \times 10}{(15+10)}$ km/hr = 12 km/hr

54. (d)

55. (a) One is x yrs, another is $(x + 20)$ yrs.

$\therefore (x + 20) - 5 = 5(x - 5)$ or, $x = 10$

$\therefore$ Present ages (in yrs) = 30, 10

56. (d) (A+B+C) can fill a cistern in 6 hrs .....(a)

$\therefore$ (A+B+C) can fill $\frac{1}{3}$ of cistern in 2 hrs.

Now, $1 - \frac{1}{3} = \frac{2}{3}$ of cistern is filled by (A+B) in 7 hrs.

$\therefore$ (A+B) fill up the cistern in

$\frac{7 \times 3}{2} = \frac{21}{2}$ hrs.....(b)

From (a) and (b),

C can fill the cistern in

$\frac{6 \times \frac{21}{2}}{\frac{21}{2} - 6} = \frac{6 \times 21}{9} = 14$ hrs.

57. (d)

58. (d) Let the breadth of rectangular hall = x m.

$\therefore$ Length = (x + 5) m.

Area of hall = Length × Breadth

$\Rightarrow$ 750 = (x + 5) x.

$\Rightarrow x^2 + 5x - 750 = 0$

$\Rightarrow x^2 + 30x - 25x - 750 = 0$

$\Rightarrow x(x + 30) - 25(x + 30) = 0$

$\Rightarrow (x - 25)(x + 30) = 0$

$\Rightarrow$ x = 25 , as x cannot be negative.

$\therefore$ Length of hall = x + 5 = 25 + 5 = 30 m.

59. (b) $a\sin\theta + b\cos\theta = c$ ....(i)

$a\cos\theta - b\sin\theta = x$ ....(ii)

Squaring both the equations and adding,

$a^2 \sin^2\theta + b^2 \cos^2\theta + 2ab \sin\theta . \cos\theta + a^2 \cos^2\theta + b^2 \sin^2\theta - 2ab \sin\theta . \cos\theta = c^2 + x^2$

$\Rightarrow a^2 \sin^2\theta + a^2 \cos^2\theta + b^2 \cos^2\theta + b^2 \sin^2\theta = c^2 + x^2$

$\Rightarrow a^2 (\sin^2\theta + \cos^2\theta) + b^2 (\cos^2\theta + \sin^2\theta) = c^2 + x^2$

$\Rightarrow a^2 + b^2 = c^2 + x^2$

$\Rightarrow x^2 = a^2 + b^2 - c^2$

$\Rightarrow x = \pm\sqrt{a^2 + b^2 - c^2}$

60. (d)

61. (c) 62. (a) 63. (a) 64. (c) 65. (b)

66. (b) 67. (b) 68. (b) 69. (a) 70. (a)

71. (b)	72. (a)	73. (b)	74. (b)	75. (d)
76. (c)	77. (d)	78. (b)	79. (d)	80. (b)
81. (a)	82. (a)	83. (a)	84. (b)	85. (d)
86. (d)	87. (a)	88. (b)	89. (a)	90. (a)
91. (b)	92. (c)	93. (a)	94. (a)	95. (d)

96. (a) Global Family Day, also called World Peace Day, is observed annually on January 1 to promote peace and unity worldwide. It emphasizes the idea that all people are interconnected regardless of nationality, borders, or ethnicity. ACHIEVERS In Focus

97. (a) The Government of India has designated areas around Shikari Devi Wildlife Sanctuary as eco-sensitive zones (ESZs) to protect it from urbanization and development. The sanctuary is located in Mandi district, Himachal Pradesh, in the Himalayan foothills. The sanctuary is named after the goddess Shikari Devi, with a sacred temple at 2,850 m above sea level.

98. (a) Sikkim has been declared the partner state for the Hornbill Festival 2024. The Hornbill Festival is an annual cultural event in Nagaland, named after the Indian hornbill bird featured in tribal folklore. It is held at Naga Heritage Village, Nagaland. The festival is organized by Nagaland's Tourism and Art & Culture Departments. Its objective is to promote cultural heritage and foster inter-tribal interaction in Nagaland. ACHIEVERS In Focus

99. (a) The Prime Minister of India expressed condolences for Cyclone Chido victims and pledged support for relief efforts. Cyclone Chido struck Mayotte, a French territory in the Mozambique Channel, with winds reaching 200 km/h, making it the strongest cyclone in 90 years. Mayotte is part of the Comoros archipelago, consisting of two main islands: Grande Terre and Petite Terre (Pamandzi), located in the Indian Ocean's Mozambique Channel. ACHIEVERS In Focus

100. (d) SVAMITVA (Survey of Villages and Mapping with Improvised Technology in Village Areas) was launched by Ministry of Panchayati Raj in 2020. It was launched to provide rural property owners with official property records. It grants access to loans, reduces disputes, and improves village planning. The scheme has issued 20.19 million property cards and completed 92% of drone mapping in 317,000 villages. It empowers women, strengthens land rights, and promotes community development.

ACHIEVERS In Focus