

RPF MOCK TEST - 3 (SOLUTION)

51. (B) Single equivalent discount given by first shopkeeper = $\left(15 + 10 - \frac{15 \times 10}{100}\right)\%$
 $= 23.50\%$
 Single equivalent discount given by second shopkeeper = $\left(9 + 16 - \frac{9 \times 16}{100}\right)\%$
 $= 23.56\%$
 Hence 2nd will be more beneficial.

52. (C) $\frac{m_1 \times d_1}{w_1} = \frac{m_2 \times d_2}{w_2}$
 $\frac{20 \times 15}{9000} = \frac{x \times 30}{13500} \times \frac{3}{2}$
 $\Rightarrow x = 10$ men

53. (A) $\sqrt{15} = 3.88$ (Given)
 Now, $\sqrt{\frac{5}{3}} = \sqrt{\frac{5 \times 3}{3 \times 3}} = \frac{\sqrt{15}}{3}$
 $= \frac{3.88}{3} = 1.29\bar{3}$

54. (B) In 1 sec rotations = $7 \times 2\pi$ radian
 Now, required time = $\frac{1}{14\pi} \times 55$
 $= \frac{1}{14 \times \frac{22}{7}} \times 55 = 1.25$ sec.

55. (C) $\begin{array}{c} 18,000 \\ \swarrow \quad \searrow \\ M \quad \quad F \\ +5\% \quad +5\% + 3\% \\ \downarrow \quad \quad \downarrow \times 100 \\ 900 \quad \quad 300 \end{array}$
 \therefore No. of females = 10,000
 No. of males = 8,000
 Required ratio = 4 : 5

56. (A) Let the cost price of article be $\begin{array}{c} 1000 \\ \swarrow \quad \searrow \\ -44\% \quad -30 \\ 560 \quad \quad 700 \\ \hline -140 \end{array}$

\therefore Required loss = $\frac{140}{700} \times 100 = 20\%$

57. (B) Ratio of speeds of
 $A : B : C$
 $6 : 3 : 1$
 Ratio of time of
 $A : B : C$
 $1 : 2 : 6$
 $\downarrow \times 19 \quad \downarrow \times 19$
 $38 \text{ min} \quad 1 \text{ hr } 54 \text{ min}$

58. (D) $a + b + c = 18 \times 3 = 54$
 and $b + c + d = 16 \times 3 = 48$
 $\therefore a + b + c - b - c - d$
 $= 54 - 48 = 6$
 $\Rightarrow a - d = 6$
 $\Rightarrow a - 19 = 6$
 $\Rightarrow a = 25$

59. (D) Required no. of students
 \Rightarrow L.C.M of 6, 8, 12 and 16
 $= 96$

60. (A)

1 cow	:	1 calf
Old cost \rightarrow 4000	:	2800
$\downarrow +20\%$		$\downarrow +30\%$
New Cost \rightarrow 4800		3640

 ATQ,
 Price of 1 dozen cows = $4800 \times 12 = 57600$
 Price of 2 dozen calves = $3640 \times 24 = 87360$
 Total cost = $57600 + 87360 = ₹ 144960$

61. (D) $\sqrt{24010000} = 4900$
 again, $\sqrt{4900} = 70$
 $\therefore \sqrt[4]{24010000} = 70$

62. (A) Avg. Height = $\frac{6 \times 1.15 + 8 \times 1.10 + 6 \times 1.12}{20}$
 $= \frac{6.9 + 8.8 + 6.72}{20} = \frac{22.42}{20}$
 $= 1 \text{ m } 12.1 \text{ cm}$

63. (A) $\therefore \frac{1}{x+y} = \frac{1}{x} + \frac{1}{y} = \frac{y+x}{xy}$
 $\Rightarrow (x+y)^2 = xy$
 $\Rightarrow x^2 + 2xy + y^2 = xy$
 $\Rightarrow x^2 + xy + y^2 = 0$
 $\therefore x^3 - y^3 = (x-y)(x^2 + xy + y^2) = 0$

64. (A) Area of kite = Area of square + Area of equilateral triangle
 $= \frac{1}{2}(\text{diagonal})^2 + \frac{\sqrt{3}}{4} \times (\text{side})^2$
 $= \frac{1}{2} \times 32 \times 32 + \frac{\sqrt{3}}{4} \times 8 \times 8$



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65. (D) $l + b + h = 24$ [given]
 $l^2 + b^2 + h^2 = 225$ [given]
 $\therefore (l + b + h)^2 = l^2 + b^2 + h^2 + 2(lb + bh + hl)$
 $\Rightarrow (24)^2 = 225 + 2(lb + bh + hl)$
 $\Rightarrow 2(lb + bh + hl) = 576 - 225$
 $= 351$ sq. cm.

66. (B) $(64)^{x+1} = \frac{64}{4^x}$
 $\Rightarrow (4^3)^{x+1} \times 4^x = 64$
 $\Rightarrow 4^{3x+3+x} = 4^3$
 $\Rightarrow 4^{4x+3} = 4^3$
 $\Rightarrow 4x + 3 = 3$
 $\Rightarrow x = 0$

67. (D) Let the distance of total journey = LCM of (8, 6) = 24 units
 $\therefore \frac{3}{8}$ of the journey = $\frac{3}{8} \times 24 = 9$ units

and, $\frac{5}{6}$ of the journey = $\frac{5}{6} \times 24 = 20$ units

i.e. it covered $20 - 9 = 11$ units of distance in 4.30 p.m. to 11 a.m.

= $5\frac{1}{2}$ hours = $\frac{11}{2}$ hours

\therefore Speed of person = $\frac{11}{11/2} = 2$ km/hr

$\therefore \frac{3}{8}$ of the journey will be covered in

= $\frac{9}{2} = 4\frac{1}{2}$ hours

Starting time = 11 a.m. - $4\frac{1}{2}$ hrs. = 6.30 a.m.

68. (D) Expression
 $= \sqrt{156.25} + \sqrt{0.0081} - \sqrt{0.0361}$
 $= 12.5 + 0.09 + 0.19 = 12.78$

69. (D) $\begin{array}{cc} 5 & A & 7 \\ 3 & 3 & 5 \\ \hline 8 & B & 2 \end{array}$
 $\Rightarrow A \rightarrow 1, 2, 3, 4, 5 \text{ \& } 6$
 $B \rightarrow 5, 6, 7, 8, 9$
 $8B2$ is exactly divisible by 3.
 $\therefore 8 + B + 2 = \text{multiple of } 3$
 $\therefore B = 5 \text{ or } 8 \Rightarrow A = 1 \text{ or } 4$

70. (C) Rate = $12\frac{1}{2}\% = \frac{1}{8}$

Amount	Instalment
$\begin{array}{r} 8 \times 9 \\ + 64 \\ \hline 136 \end{array}$	$\begin{array}{r} 9 \times 9 \\ \textcircled{81} \end{array}$
$\begin{array}{r} 136 \\ \downarrow \times 50 \\ \text{₹}6800 \end{array}$	$\begin{array}{r} \textcircled{81} \\ \downarrow \times 50 \\ \text{₹}4050 \end{array}$

71. (B) Total weight of section A = $42 \times 25 = 1050$ kg
 Total weight of group B = $28 \times 40 = 1120$ kg
 Total weight of whole class = 2170 kg
 Average weight of whole class
 $= \frac{2170}{70} = 31$ kg

72. (D)

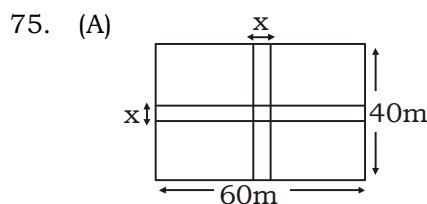
No. of Pen	Rupees
Buy $\left[\begin{array}{l} 4 \longrightarrow 15 \\ \text{or } 12 \longrightarrow 45 \end{array} \right.$	
Sell $\left[\begin{array}{l} 6 \longrightarrow 25 \\ \text{or } 12 \longrightarrow 50 \end{array} \right.$	
Profit	No. of Pens
5	12
$\downarrow \times 5$	$\downarrow \times 5$
25	60

Profit percentage = $\frac{50 - 45}{45} \times 100$

= $\frac{5}{45} \times 100 = \frac{1}{9} \times 100 = 11\frac{1}{9}\%$

73. (B) $4x - 3y = 13$
 Cubing both sides
 $64x^3 - 27y^3 - 3 \times 4x \times 3y(4x - 3y) = (13)^3$
 $\Rightarrow 64x^3 - 27y^3 - 36(14)(13) = 2197$
 $= 64x^3 - 27y^3 = 2197 + 6552$
 $\Rightarrow 64x^3 - 27y^3 = 8749$

74. (B) $\frac{3}{8} \times \frac{20}{9} + 15 \div \frac{5}{3} - \frac{5}{6}$
 $= \frac{5}{6} + 9 - \frac{5}{6} = 9$



Total area of park = $60 \times 40 = 2400$ m²
 and area of lawn = 2109 m² (given)
 area of the cross roads = $2400 - 2109 = 291$ m²

$\Rightarrow x(60 + 40 - x) = 291$
 $\Rightarrow x^2 - 100x + 291 = 0$
 $\Rightarrow (x - 97)(x - 3) = 0$
 $\Rightarrow x = 3 \text{ or } 97$
 $\Rightarrow x = 3$ [$\because x = 97$ is not possible]

76. (B) Let actual sum = ₹ x

$\therefore 22.22\% = \frac{2}{9}$

\therefore Remaining amount = $\frac{7}{9}$

$\therefore 37.5\% = \frac{3}{8} \therefore \text{Remaining amount} = \frac{5}{8}$

ATQ,

$x \times \frac{7}{9} \times \frac{5}{8} = 315$

$\Rightarrow x = ₹ 648$

Now, 75% of $x = \frac{75}{100} \times 648 = ₹ 486$

77. (A) $(13)^{54} \times (13)^{-51} \div (13)^2$
 $= (13)^{54} \times (13)^{-53}$
 $= 13^1 = 13$

78. (D) $\sqrt[3]{\frac{7 + \sqrt{73 + \sqrt{59 + \sqrt{8 + \sqrt{289}}}}}{729}}$

$= \sqrt[3]{\frac{\sqrt{7 + \sqrt{73 + \sqrt{59 + \sqrt{8 + 17}}}}}{9}}$

$= \sqrt[3]{\frac{\sqrt{7 + \sqrt{73 + \sqrt{59 + 5}}}}{9}}$

$= \sqrt[3]{\frac{\sqrt{7 + \sqrt{73 + 8}}}{9}}$

$= \sqrt[3]{\frac{\sqrt{7 + 9}}{9}} \Rightarrow \sqrt[3]{\frac{4}{9}} = \frac{2}{3}$

79. (C) ATQ,

$\frac{9.6}{(34 + x)} = \frac{16}{60}$

$\Rightarrow 34 + x = 36$

$\Rightarrow x = 2$

80. (C) ATQ,

$4 - \sqrt{13}, \sqrt{10} - \sqrt{7}, \sqrt{7} - 2, \sqrt{13} - \sqrt{10}$
 $= \sqrt{16} - \sqrt{13}, \sqrt{10} - \sqrt{7}, \sqrt{7} - \sqrt{4}, \sqrt{13} - \sqrt{10}$

Since, the gap between two numbers is same. So, the number whose multiplication is smallest, will be largest number.

81. (A) Let the number of balls be $3x, 7x$ and $11x$.
 ATQ,

$7x - 3x = 4x = \text{multiple of 6 and 8}$

LCM of (6,8) = 24

\therefore we can say, $4x = 24$

$\Rightarrow x = 6$

Hence, the number of balls = $3x + 7x + 11x$

$= 21x = 21 \times 6 = \mathbf{126}$

82. (B) $348 \div 29 \times 15 + 156 = (x)^3 + 120$

$180 + 156 - 120 = x^3$

$\Rightarrow x^3 = 216$

$\Rightarrow x = 6$

83. (B) Required number of donors

$= 150 \times \frac{1008}{3600} \times \frac{100}{100} = 42$

84. (A) Required number of man

$= 150 \left(\frac{72}{360} \times \frac{100}{100} + \frac{1296}{3600} \times \frac{100}{100} \right)$

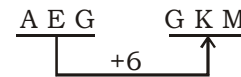
$= 30 + 54 = 84$

85. (C) Required percentage = $\frac{57.6}{360} \times 100 = 16$

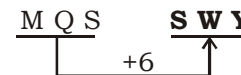
86. (A) As, Plough is used by farmer.

Similarly, **Brush** is used by painter.

87. (A) As,



Similarly,



88. (D) As,

$17 \xrightarrow{\text{On interchanging the digit}} 71$

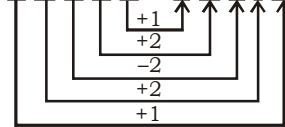
Similarly,

$35 \xrightarrow{\text{On interchanging the digit}} 53$

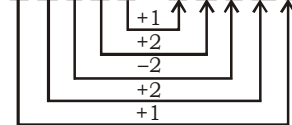
89. (C) As, $12 + \frac{12}{2} = 18$

Similarly, $80 + \frac{80}{2} = \mathbf{120}$

90. (B) As, A G R E E F G P I B



Similarly, R U L E S T G J W S



91. (D) Except **Magenetic field**, all other are the SI units.

92. (D) $\begin{matrix} B & G & F \\ \uparrow & \uparrow & \uparrow \\ +5 & -1 & \end{matrix}$ $\begin{matrix} F & D & H \\ \uparrow & \uparrow & \uparrow \\ -2 & +4 & \end{matrix}$

$\begin{matrix} B & A & E \\ \uparrow & \uparrow & \uparrow \\ -1 & +4 & \end{matrix}$ $\begin{matrix} C & D & E \\ \uparrow & \uparrow & \uparrow \\ +1 & +2 & \end{matrix}$

93. (C) Except **4099**, all others are the perfect cube.

94. (D) Except **G**, all others are vowel.

95. (C)
$$\begin{array}{ccc} E & 5 & T \\ \downarrow & \downarrow & \downarrow \\ 5 & + & 5 + 20 = 30 \end{array}$$

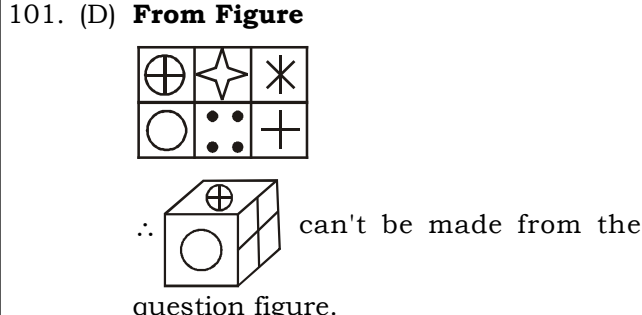
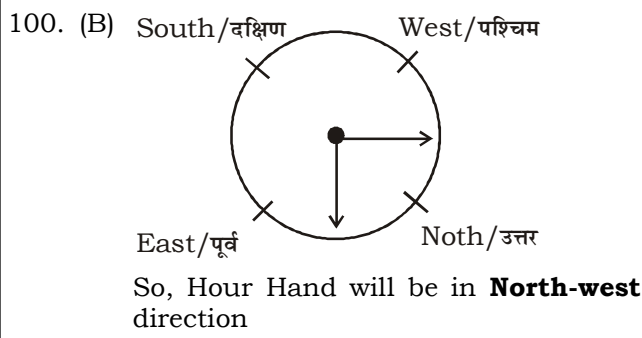
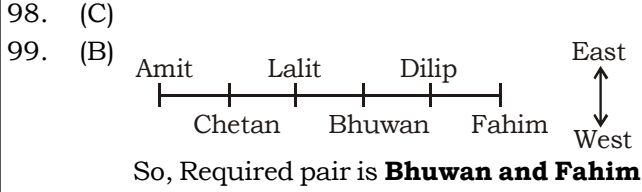
$$\begin{array}{ccc} O & 9 & S \\ \downarrow & \downarrow & \downarrow \\ 15 & + & 9 + 18 = 42 \end{array}$$

$$\begin{array}{ccc} U & 3 & A \\ \downarrow & \downarrow & \downarrow \\ 21 & + & 3 + 1 = 25 \text{ (Perfect square)} \end{array}$$

$$\begin{array}{ccc} I & 7 & M \\ \downarrow & \downarrow & \downarrow \\ 9 & + & 7 + 13 = 29 \end{array}$$

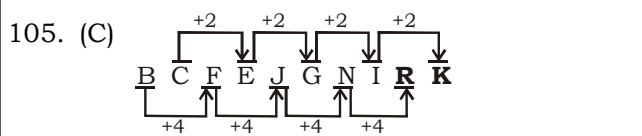
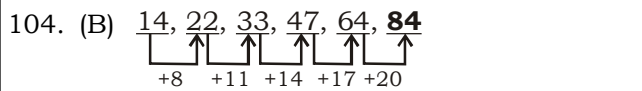
96. (C) $4 + 5 = 9, 9 + 5 = 14, 14 + 9 = 23$
 $23 + 37 = 60, 60 + 37 = 97$

97. (B) As, $8 + 3 + 5 - (4 + 2) = 10$
 and, $9 + 7 + 5 - (1 + 8) = 12$
 Similarly,
 $5 + 4 + 5 - (2 + 3) = 9$

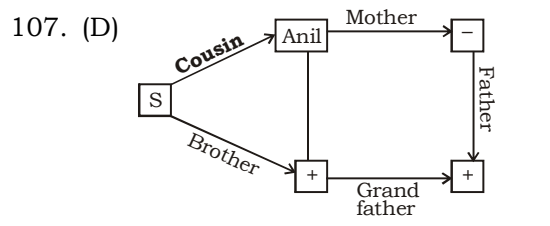


102. (D)

103. (D)



106. (A)



109. (A) **accab/accab/accab**

110. (B)

111. (C)

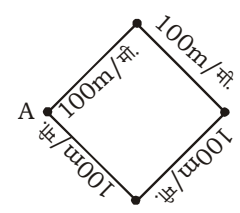
112. (A) $4 \times 5 + 9 - 3 \div 4 = 15$
 After changing the signs,
 $4 + 5 \times 9 \div 3 - 4 = 15$
 $\Rightarrow 4 + 15 - 4 = 15$
 $\Rightarrow 15 = 15$

113. (B) $8 \times 9 + 2 = 74$
 After changing the signs and numbers,,
 $2 + 9 \times 8 = 74$
 $\Rightarrow 74 = 74$

114. (D)

115. (B)

116. (C)



So, Now he is at the starting point (A)

117. (D)

118. (A) Let the number of children and adults is $3x$ and $4x$ respectively
 Then, literate population

$$= \frac{3x \times 40}{100} + \frac{75 \times 4x}{100}$$

$$= \frac{6x}{5} + \frac{4x}{3} = \frac{38x}{15}$$

\therefore Required % = $\frac{38x}{15} \times \frac{1}{7x} \times 100$
 $= 36.19\%$

119. (B) Total number of triangles = **7**

120. (A) As, $\frac{2 \times 4}{2} \Rightarrow 12$
 and, $\frac{8 \times 2}{2} \Rightarrow 41$
 Similarly, $\frac{2 \times 6}{2} \Rightarrow 13$



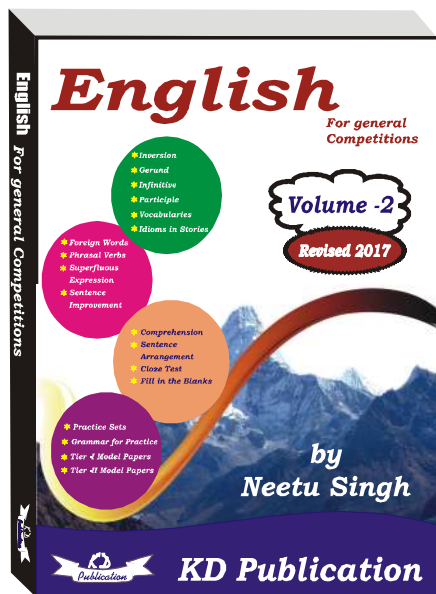
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Answer key

1. (C)	16. (B)	31. (B)	46. (B)	61. (D)	76. (B)	91. (D)	106. (A)
2. (C)	17. (A)	32. (A)	47. (C)	62. (A)	77. (A)	92. (D)	107. (D)
3. (D)	18. (A)	33. (A)	48. (D)	63. (A)	78. (D)	93. (C)	108. (B)
4. (A)	19. (B)	34. (A)	49. (D)	64. (A)	79. (C)	94. (D)	109. (A)
5. (C)	20. (B)	35. (A)	50. (D)	65. (D)	80. (C)	95. (C)	110. (B)
6. (C)	21. (C)	36. (B)	51. (B)	66. (B)	81. (A)	96. (C)	111. (C)
7. (C)	22. (A)	37. (A)	52. (C)	67. (D)	82. (B)	97. (B)	112. (A)
8. (A)	23. (C)	38. (A)	53. (A)	68. (D)	83. (B)	98. (C)	113. (B)
9. (B)	24. (A)	39. (A)	54. (B)	69. (D)	84. (A)	99. (B)	114. (D)
10. (B)	25. (D)	40. (C)	55. (C)	70. (C)	85. (C)	100. (B)	115. (B)
11. (B)	26. (A)	41. (B)	56. (A)	71. (B)	86. (A)	101. (D)	116. (C)
12. (C)	27. (C)	42. (B)	57. (B)	72. (D)	87. (A)	102. (D)	117. (D)
13. (C)	28. (D)	43. (C)	58. (D)	73. (B)	88. (D)	103. (D)	118. (A)
14. (C)	29. (C)	44. (D)	59. (D)	74. (B)	89. (C)	104. (B)	119. (B)
15. (A)	30. (D)	45. (A)	60. (A)	75. (A)	90. (B)	105. (C)	120. (A)

For all general competitive exams



CHAPTERS

- ★ Foreign Words
- ★ Phrasal Verbs
- ★ Superfluous
- ★ Expression
- ★ Sentence Improvement

Note:- If your opinion differs regarding any answer, please message the mock test and question number to 8860330003

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Note:- If you face any problem regarding result or marks scored, please contact 9313111777