RPF (CONSTABLE) MOCK TEST – 6 (SOLUTION)

51. (C) ATQ,
$x - y = 9$
$\Rightarrow x^2 + y^2 + 2xy = 81$
$\Rightarrow x^2 + y^2 = 81 - 26 = 55$

52. (C)

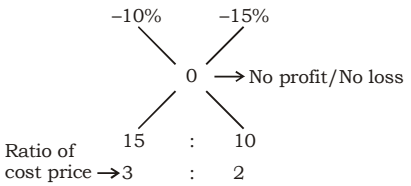
53. (A) Total fair of 30 days
$= 30 \times 60 = ₹1800$
$\therefore$ Required saving $= \frac{1800-1250}{1800} \times 100$
$= \frac{550}{1800} \times 100$
$= 30.56\%$

54. (D) Let the number $= 10x + y$
ATQ,
$10x + y + 63 = 10y + x$
$\Rightarrow 9y - 9x = 63$
$\Rightarrow y - x = 7$
and, $xy = 18$
$\therefore x = 2$ and $y = 9$
Hence, required number $= 10 \times 2 + 9 = 29$

55. (B) $\frac{7}{3} + \frac{10}{9} = \frac{21+10}{9} = \frac{31}{9}$
Required answer $= \frac{9}{31}$

56. (D) ATQ,
The ratio of shares of group of men, women and boys
$= 9 \times 4 : 8 \times 5 : 4 \times 6$
$= 36 : 40 : 24$
Share of 5 women
$= \frac{40}{36+40+24} \times 425$
$= 170$
$\therefore$ The share of 1 woman $= \frac{170}{5}$
$= ₹34$

57. (B) Loss % = –10%, Profit % = 15%
By alligation Rule,



ATQ,
Let $CP_1 = 300$ units, $CP_2 = 200$ units
$SP_1 = \frac{300 \times 90}{100} = 270$ units
$SP_2 = \frac{200 \times 115}{100} = 230$ units
Total SP = 270 + 230 = 500 units
Now, 500 units = ₹30,000
$\Rightarrow$ 1 unit = ₹60
$\Rightarrow$ 100 units = ₹60 × 100 = ₹6000
$\therefore$ Difference in cost prices = ₹6000

58. (C) Required time $= \frac{30 \times 100}{150 \times 4} = 5$ years

59. (D) A.T.Q.,
$\frac{4}{3}\pi(r_1^3 + r_2^3 + r_3^3) = \frac{4}{3}\pi(6)^3$
$\Rightarrow 27 + 64 + r_3^3 = 216$
$\Rightarrow r_3^3 = 125$
$\Rightarrow r^3 = 5$
$\therefore$ Required radius of the third ball = 5 cm

60. (C) A.T.Q.,
A → 12 — 15
B → 18 — 10 — 180 Total work
C → 10 — 18
Work done by A, B and C in three days = 43 × 3 = 129 units
Remaining work = (180 – 129) = 51 units
Time taken by B to complete the remaining work $= \frac{51}{10} = 5.1$ days

61. (C) Let number of new pages be P_2 then,
$30 \times 36 \times 35 = P_2 \times 30 \times 28$
$\Rightarrow P_2 = 45$
So, required percentage
$= \frac{15}{30} \times 100 = 50\%$

62. (B) A.T.Q.,
A → 14 — 8
B → 16 — 7 — 112 ↓ Total capacity
Time required to fill the tank $= \frac{112}{15}$ hr
According to the question when leak is open.

Total time (A + B + C)

$$= \frac{112}{15} + \frac{32}{60} = 8 \text{ hours}$$

A + B + C → 8 (14)

A+B → $\frac{112}{51}$ (15) → 112

Efficiency of leak pipe (C) = 15 – 14
= 1 unit/hr

Required time for pipe C to empty the tank = $\frac{112}{1}$ = 112 hr

63. (D) Let initial speed = 16 km/hr

$$\left[\because \frac{16\times 1}{16} = 1\right]$$

∴ Reduced speed = 16 – 1
= 15 km/hr

∴ Distance (in case I) = 16 × 28 = 448 km
and, Distance (in case II) = 15 × 28 = 420 km
∴ Difference = 450 – 420 = 28 km
ATQ,
∴ 28 unit = 14

$$\Rightarrow 16 = \frac{1}{2} \times 16 = 8$$

Hence, initial speed = 8 km/hr

64. (A) Let the cost price of article = x

and, selling price of article = $\frac{120x}{100} = \frac{6x}{5}$

$$\frac{\left(\frac{6x}{5} - 100\right) - (x - 100)}{(x - 100)} \times 100 = 24$$

$$\Rightarrow \frac{6x - 500 - 5x + 500}{(x - 100)} \times 20 = 24$$

$$\Rightarrow 20x = 24x - 2400$$
$$\Rightarrow x = 600$$

65. (A) Number of votes of the second candidate

$$= \frac{160000 \times 84 \times 40}{100 \times 100} = 53760$$

66. (A) Runs in the first match = 150

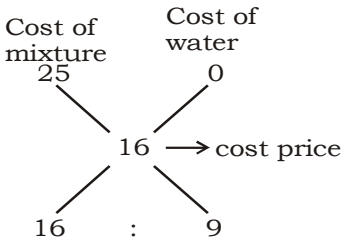
Runs in the second match = $\frac{150}{5} \times 6 = 180$

Runs in the third match = $\frac{180}{4} \times 3 = 135$

Required average

$$= \frac{150 + 180 + 135}{3} = 155$$

67. (B) Required cost price = $\frac{20 \times 100}{125} = ₹16$



So, required ratio = 16 : 9

68. (D) A.T.Q.,
CP of 100 oranges = ₹350
SP of 12 oranges = ₹48
∴ SP of 100 oranges

$$= ₹\frac{48}{12} \times 100 = ₹400$$

$$\therefore \text{Profit \%} = \frac{400 - 350}{350} \times 100$$

$$= \frac{100}{7} = 14\frac{2}{7}\% \text{ profit}$$

69. (B) Required percentage = $\frac{19}{7600} \times 100$
= 0.25%

70. (D) Volume of the block = (15 × 4 × 3) = 180 cm³
Volume of the cone carved out

$$= \left(\frac{1}{3} \times \frac{22}{7} \times 6 \times 6 \times 3.5\right) \text{cm}^3 = 132 \text{ cm}^2$$

$$\therefore \text{Wood wasted} = \frac{180 - 132}{180} \times 100 = 26.67$$

71. (A) ATQ,
$3^1 = 3$, $3^2 = 9$
$3^3 = 27$, $3^4 = 81$
∴ Unit place digit = odd number
Hence, both numbers are divisible by 2

72. (A) Number of books in each stack = HCF of 336, 240, 96 = 48

240)336(1
240
96)240(2
192
48)96(2
96
×

∴ Total number of stacks

$$= \frac{336}{48} + \frac{240}{48} + \frac{96}{48} = 7 + 5 + 2 = 14$$

73. (C) ATQ,
$\therefore 2x - 2 = x + 2$
$\Rightarrow x = 4$
∴ Initial amount with A = ₹8

and, initial amount with B = ₹4

74. (A) Let breadth = x metres.

Then, length = $\left(\frac{3}{2}x\right)$ metres.

Area = $\left(\frac{2}{3}\times 10000\right)$ m²

$\therefore \frac{3}{2}x \times x = \frac{2}{3} \times 10000$

$\Rightarrow \frac{4}{9}\times 10000 \Rightarrow x = \frac{2}{3}\times 100$

$\therefore$ Length = $\frac{3}{2}x = \left(\frac{3}{2}\times\frac{2}{3}\times 100\right)$

= 100 m

75. (A) LCM of 28 and 42

2	28, 42
2	14, 21
7	7, 21
	1, 3

= 2 × 2 × 7 × 3 = 84

HCF of 28 and 42

$\therefore$ HCF = 14

28)42(
28
14)14(1
00

Required ratio = $\frac{84}{14}$ = 6 : 1

76. (D) Let the principal be ₹x.

Now, CI = $P\left[\left(1+\frac{R}{100}\right)^T - 1\right]$

$\Rightarrow 1261 = x\left[\left(1+\frac{5}{100}\right)^3 - 1\right]$

$\Rightarrow 1261 = x\left(\frac{9261}{8000} - 1\right)$

$\Rightarrow 1261 = x\left(\frac{9261-8000}{8000}\right) = \frac{1261x}{8000}$

$\Rightarrow x = \frac{1261\times 8000}{1261}$ = ₹8000

77. (B) ATQ

$\frac{8}{5} = \frac{x}{45}$

$\Rightarrow x = 72$

$\therefore$ Required height = 72 feet

78. (C) Let maximum marks = x

ATQ,

$\frac{x\times 50}{100}$ = 143 + 57

$\Rightarrow x = 400$

79. (C) Let the original fraction be $\frac{a}{b}$

ATQ,

$\frac{a^2\times\frac{5}{4}}{b^2\times\frac{4}{5}} = \frac{5}{8}\times\frac{a}{b}$

$\Rightarrow \frac{x}{45}\times\frac{25}{16} = \frac{5}{8}\times\left(\frac{a}{b}\right)$

$\Rightarrow \left(\frac{a}{b}\right) = \frac{2}{5}$

$\therefore a \times b = 2 \times 5 = 10$

80. (B) Equation

$= \left[\left(7^{-1}-8^{-1}\right)^{-1} - (3^{-1}-4^{-1})^{-1}\right]$

$= \left[\left(\frac{1}{7}-\frac{1}{8}\right)^{-1} - \left(\frac{1}{3}-\frac{1}{4}\right)^{-1}\right]$

$= \left[\left(\frac{8-7}{56}\right)^{-1} - \left(\frac{4-3}{12}\right)^{-1}\right]$

$= \left[\left(\frac{1}{56}\right)^{-1} - \left(\frac{1}{12}\right)^{-1}\right]$ = 56 – 12 = 44

81. (C) Required difference
= (550 + 700 + 750 + 350 + 450) – (400 + 500 + 600 + 300 + 600)
= 400

82. (B) Average number of females

$= \frac{400+500+600+300+600}{5}$

= 480

$\therefore$ Required percentage

$= \frac{480-350}{350}\times 100 = 37.14$

83. (D) Required ratio
= 700 + 350 : 600 + 600
= 1050 : 1200 = 7 : 8

84. (C) Required % = $\frac{550+700}{750+350+450}\times 100$
= 80.65%

85. (D) Required average

$= \frac{500+700+750+350+950}{5}$

= 560

86. (B) As, Neglect is opposite of Nurture.

Similarly, **Extol** is opposite of Defame.

87. (C) E K B N H H H H
+3, −3, +6, −6
Similarly,
C X V E **F U B Z**
+3, −3, +6, −6

88. (A) As, $23 + (3)^2 = 32$
Similarly, $34 + (4)^3 =$ **98**

89. (B) As, $21 \times 3 + (2 + 1) = 66$
Similarly, $19 \times 3 + (1 + 9) =$ **67**

90. (A) As, $36 + 69 = 99$
Similarly, $43 + 34 =$ **77**

91. (D) Except **Nagpur**, all others are north Indian cities.

92. (B) 37 – 19 = 18 (Factor of 9)
46 – 27 = **19** (Not factor of 9)
40 – 31 = 9 (Factor of 9)
41 – 14 = 27 (Factor of 9)

93. (D) Except **diagonal**, all are the part of circle while diagonal is the part of parallelogram, rectangle and square etc.

94. (C) Except **wood**, all are non-renewable resources while wood is renewable resource.

95. (D) Except **BCD**, sum of digits values of all is divisible by 6.

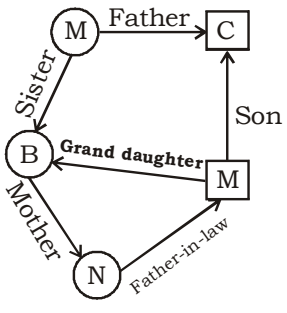
96. (D) As, $6^3 + 5^2 = 241$
And, $7^3 + 3^2 = 352$
Similarly, $8^3 + 4^2 =$ **528**

97. (A) As, $(8 + 6) \times 9 = 126 \Rightarrow 126 \times 12 = 1512$
Similarly, $(12 + 4) \times 5 = 80 \Rightarrow 80 \times 12 =$ **960**

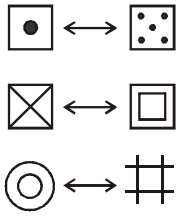
98. (D)

99. (B) $(4 \div 16 - 17) + 9 \times 12$
After changing the signs,
$(4 \times 16 + 17) \div 9 - 12$
$= 81 \div 9 - 12 =$ **–3**

100. (D)



101. (B) From figure,



∴  can't be made based on the unfolded cube in question figure.

102. (B)

103. (C)

104. (D) 7, 18, 51, 106, **183**
+11, +(11×3), +(11×5), +(11×7)

105. (C) 42, 22, 12, 7, **4.5**
÷2+1, ÷2+1, ÷2+1, ÷2+1

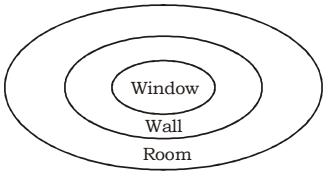
106. (C) S $\xrightarrow{-4}$ O $\xrightarrow{-4}$ **K** $\xrightarrow{-4}$ G $\xrightarrow{-4}$ C
7 $\xrightarrow{+3}$ 10 $\xrightarrow{+4}$ **14** $\xrightarrow{+5}$ 19 $\xrightarrow{+6}$ 25
D $\xrightarrow{-5}$ Y $\xrightarrow{-5}$ **T** $\xrightarrow{-5}$ O $\xrightarrow{-5}$ J

107. (C)

	Maths	Science	Eng	Hindi	His	Geo
A	✓	✓		✓		
B	✓	✓			✓	✓
C		✓	✓			
D	✓	✓	✓	✓		
E					✓	✓

Hence, **B** and **D** were teaching maximum subject.

108. (A)



109. (C) ab**b**/**aa**b/**a**bb/aa**b**

110. (D)

111. (B) As, $(24 - 3)^2 = 441$
and, $(45 - 6)^2 = 1521$
Similarly, $(35 - 7)^2 =$ **784**

112. (C) As, $4 \times 9 - (9 + 4) + 1 = 24$
And, $5 \times 7 - (5 + 7) + 1 = 24$
Similarly, $12 \times 12 - (12 + 12) + 1 =$ **121**

113. (D)

114. (D)

115. (B)

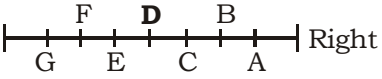
116. (A)

A	B	C	D	E
Teacher	Painter	**Journalist**	Businessman	Scientist
Tea	Coffee	**Tea**	Coffee	Tea

117. (A)

A	B	**C**	D	**E**
Teacher	Painter	**Journalist**	Businessman	**Scientist**
Tea	Coffee	**Tea**	Coffee	**Tea**

118. (B)



119. (B) Total number of triangles = **19**

120. (A) F U E L
↓ ↓ ↓ ↓
21, 55, 22, 02

Answer key

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

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

Note:- Whatsapp with Mock Test No. and Question No. at 7053606571 for any of the doubts, also share your suggestions and experience of Sunday Mock

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