RPF MOCK TEST – 2 (SOLUTION)

51. (B) Let the age of Hemant = x years
and, the age of his sister = $x + 6$ years
Hemant's father present age
$= (x + 42)$ years.
Hemant's mother present age = $(x + 6 + 34)$
$= x + 40$ years
$\therefore$ Required difference = $x + 42 - (x + 40)$
= 2 years

52. (C) ATQ,
$(P + 4)(P - 3) = P^2 - 4$
$\Rightarrow P^2 + 4P - 3P - 12 = P^2 - 4$
$\Rightarrow P = 8$
$\therefore$ Required area = $(8 + 4)(8 - 3) = 60$ unit^2

53. (C) Let numbers = n, $n + 1$, $n + 2$, $n + 3$ ..... $n + 6$
ATQ,
$$= \frac{n+n+1+n+2+n+3+n+4+n+5+n+6}{7} = m$$
$$\Rightarrow \frac{7n+21}{7} = m$$
$\Rightarrow m = n + 3$
$\therefore$ Required average
$$= \frac{m+m+1+m+2+m+3.....m+7}{8}$$
$$= \frac{8m+28}{8} = \frac{2m+7}{2}$$

54. (A) Correct average $= \frac{(12 \times 26.5) - 26 - 37 + 25}{12}$
$$= \frac{280}{12} = 23.3$$

55. (B) Required present worth = present worth of ₹ 2392 due in 6 month + present worth of ₹ 2392 due in 1 year.
$$= \frac{2392}{1 + \frac{6 \times \frac{1}{2}}{100}} + \frac{2392}{1 + \frac{6 \times 1}{100}}$$
$$= \frac{239200}{103} + \frac{239200}{106}$$
= 2322.33 + 2256.60
= ₹ 4578.93

56. (D) Speed of boat upstream = $\frac{2}{4} = \frac{1}{2}$ km/hr
$\therefore$ 9 – speed of stream = $\frac{1}{2}$
$\Rightarrow$ Speed of stream = $9 - \frac{1}{2} = 8\frac{1}{2}$ km/hr.
$\therefore$ Required time = $\frac{2}{9 + \frac{17}{2}} = \frac{2 \times 2 \times 60}{35}$
= 6.86 min

57. (A) ATQ,
$$\frac{16 \times 8 \times 36}{480} = \frac{24 \times 12 \times 32}{x}$$
$\Rightarrow x = 960$
$\therefore$ Required number of chairs = 960

58. (C) $\frac{3}{5} = 0.6$ and $\frac{6}{7} = 0.86$
Now, $\frac{1}{2} = 0.5$, $\frac{7}{8} = 0.87$
$\frac{2}{3} = 0.67$, $\frac{1}{3} = 0.33$
$\therefore$ Required number = $\frac{2}{3}$

59. (C) $1 \div 0.5 = \frac{10}{5} = 2$
0.5 = 0.5
$(0.5)^2 = 0.25$
$0.\overline{5} = 0.55.....$
$\therefore$ Least number = $(0.5)^2$

60. (C) LCM of $3x$, $4x$ and $6x = 12x$
ATQ,
$12x = 360$
$\Rightarrow x = 30$
HCF of $3x$, $4x$ and $6x = x$
= 30

61. (A) Required number = HCF of (1316 – 79) and (2561 – 87)
= HCF of 1237 and 2474 = 1237

62. (C) $\frac{4992}{5304} = \frac{312 \times 16}{312 \times 17} = \frac{16}{17}$

63. (A) Let x gram of A, y gram of B and z gram of C is mixed.
ATQ,
$0.06x + 0.08y + 0.09z = 0.078(x + y + z)$
$\Rightarrow 60x + 80y + 90z = 78(x + y + z)$
$\Rightarrow 18x + 8y = 12z$
$\therefore$ Possible value are $x = 2$, $y = 3$ and $z = 5$
$\therefore$ Required ratio = 2 : 3 : 5

64. (B) $S_n = \frac{n}{2}(2a + (n-1)d)$

$\Rightarrow 225 = \frac{n}{2}(2 \times 36 + (n-1)-3)$

$\Rightarrow 450 = n(72 - 3n + 3)$

$\Rightarrow 450 = 72n - 3n^2 + 3n$

$\Rightarrow 3n^2 - 75n + 450 = 0$

$\Rightarrow n^2 - 25n + 150 = 0$

$\Rightarrow n^2 - 15n - 10n + 150 = 0$

$\Rightarrow (n-15)(n-10) = 0$

$\Rightarrow n = 15$ and $n = 10$

65. (B) ATQ,
First digit can be = 2, 4, 6 and 8
Second digit can be any of 10 digits
= 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
Also, Third digit can be any of 10 digits
Fourth digit can be = 0, 2, 4, 6 and 8
$\therefore$ Required answer = $4 \times 10 \times 10 \times 5$
= 2000

66. (B) ATQ,
$(2p - 3q)(2p + 3q) = 17$
$\Rightarrow 4p^2 - 6qp + 6pq - 9q^2 = 17$
$\Rightarrow 4p^2 - 9q^2 = 17$.....(i)
and, $(3p - 2q)(3p + 2q) = 22$
$\Rightarrow 9p^2 - 6pq + 6pq - 4q^2 = 22$
$\Rightarrow 9p^2 - 4q^2 = 22$.....(ii)
On solving equation (i) and (ii),
$13p^2 - 13q^2 = 39$
$\Rightarrow p^2 - q^2 = 3$ .....(iii)
Also, from equation (i) and (ii),
$p^2 + q^2 = 1$ .....(iv)
Now, on solving equation (iii) and (iv),
$p^2 = 2$ and $q^2 = -1$
$\therefore p^2 + p^2q^2 - q^2 = 2 + 2(-1) - (-1)$
$= 2 - 2 + 1 = 1$

67. (D) ATQ,

$$\frac{848 \times 37.5}{100} + \frac{720 \times 55}{100} = x + \frac{1200 \times 16}{100}$$

$\Rightarrow 318 + 396 = x + 192$

$\Rightarrow x = 522$

68. (C) ATQ,

$$\frac{x^2}{3^3} + 13^2 = 14 \times \sqrt{196}$$

$$\Rightarrow \frac{x^2}{3^3} = 196 - 169 = 27$$

$\Rightarrow x^2 = 27 \times 27$

$\Rightarrow x = 27$

69. (C) ATQ,

$$(960.89)^{\frac{1}{2}} + (2743.8)^{\frac{1}{3}} + 12.991 \times (35.81)^{\frac{1}{2}}$$

$$= \frac{x^3}{2} + (15.99)^2$$

$$\Rightarrow (961)^{\frac{1}{2}} + (2744)^{\frac{1}{3}} + 13 \times (36)^{\frac{1}{2}} = \frac{x}{2} + (16)^2$$

$$\Rightarrow 31 \times 14 + 13 \times 6 = \frac{x^3}{2} + 256$$

$$\Rightarrow 434 + 78 - 256 = \frac{x^3}{2}$$

$\Rightarrow x^3 = 512$

$\Rightarrow x = 8$

70. (A) ATQ,
A : B
4 : 3
Ratio of their profit = $(4 \times 4) + (2 \times 8) : (3 \times 8) + (1 \times 4)$
= 32 : 28
= 8 : 7

$\therefore$ Amount received by A = $\frac{3345}{15} \times 8$
= ₹ 1784

71. (C) Let marks scored by first student = x
ATQ,

$$\left(\frac{x + x - 31.5}{100}\right) \times 64 = x$$

$\Rightarrow 128x - 2016 = 100x$

$\Rightarrow x = 72$

$\therefore$ Number scored by second student
= 72 – 31.5 = 40.5

72. (C) Total selling price = 450 + 450 = ₹ 900

Total cost price = $\frac{450 \times 120}{100} + \frac{450 \times 80}{100}$

= 540 + 360 = ₹ 900

$\therefore$ No loss or no gain

73. (D)

12	9	×16
16	12	×12
24	16	×9
192	144	
192	144	
216	144	

$\therefore$ Cost price of 288 articles = ₹ 384
and, selling price of 288 articles = ₹ 432

$\therefore$ Required gain = $\frac{48}{384} \times 100 = 12.5\%$

74. (B) A will cover a distance of = 600 – 120
= 480 m
Now, when a runs 5 m, then B runs 6 m
$\therefore$ When A runs 480 m, then

$$\text{B runs} = \frac{6}{5} \times 480 = 576 \text{ m}$$

$\therefore$ A wins by = 600 – 576 = 24 m

75. (C) Speed of sound = $\frac{6640}{20}$ = 332 m/sec

76. (B) CI – SI = $\frac{p \times r \times r \times (300 + r)}{100 \times 100 \times 100}$

$= \frac{480000 \times 8 \times 8 \times 308}{100 \times 100 \times 100}$ = ₹ 788.48

77. (B) $x + \frac{1}{9x} = 4$

$3x + \frac{1}{3x} = 12 \Rightarrow 9x^2 + \frac{1}{9x^2} = 144 - 2$

$\Rightarrow 9x^2 + \frac{1}{9x^2} = 142$

78. (C) Single rate for CI

$= 10 + 10 + \frac{10 \times 10}{100} = 21\%$

Single rate for SI = T × R = 4 × 5 = 20%
ATQ,
21% = 525

$20\% = \frac{525}{21} \times 20$ = ₹ 500

79. (C) $xy(x + y) = m$
Taking cube on both sides,

$(x + y)^3 = \left(\frac{m}{xy}\right)^3$

$\Rightarrow x^3 + y^3 + 3xy(x + y) = \frac{m^3}{x^3y^3}$

$\Rightarrow x^3 + y^3 + 3xy \times \frac{m}{xy} = \frac{m^3}{x^3y^3}$

$\Rightarrow x^3 + y^3 + 3m = \frac{m^3}{x^3y^3}$

80. (C) Amount of 3 years = ₹ 5832
Amount of 2d years = ₹ 5182
Simple interest for 1 years
= 5832 – 5182 = ₹ 650
∴ Principal = 5182 – (2 × 650) = ₹ 3882

81. (B) A.T.Q,
72° = ₹1875
Then, monthly income of the family

$= 360° = \frac{1875}{72} \times 360$ = ₹ 9375

82. (D) Percentage of savings = $\frac{108}{360} \times 100$
= 30%

83. (B) Ratio of expenses on rent and food
= 72 : 90 = 4 : 5

84. (A) A.T.Q,
monthly income of the family (360°)
= 15000
Now, average of expenses on rent, food and misellaneous = $\frac{72 + 90 + 72}{3}$ = 78°
As, 360° = ₹ 15000

Then, 78° = $\frac{15000}{360} \times 78$ = ₹ 3250

85. (C) Ratio of average of expenses on food, rent and miscellaneous items to the average of expenses on savings and clothing

$= \frac{72 + 72 + 90}{3} : \frac{108 + 18}{2}$

$= \frac{234}{3} : \frac{126}{2}$ = 26 : 21

86. (C) As, Thermometer shows temperature
Similarly, Seismometer shows **earth quack**.

87. (B) A body is consist of skeleton and language is consist of **grammer**.

88. (A) As, 13 — 20 (+7)
Similarly, 29 — **48** (+19)

89. (A) As, $4^2 - 3^2 = 7 \Rightarrow (7)^2 \rightleftarrows 94$
Similarly, $6^2 - 5^2 = 11 \Rightarrow (11)^2 \rightleftarrows$ **121**

90. (B) C H S L → F R L Z (×2, ×2+2, ×2, ×2+2)

H S S C → **P N L H** (×2, ×2+2, ×2, ×2+2)

91. (D) 3 + 4 + 4 + 1 = 12 $\Rightarrow (12)^2 = 144$
3 + 5 + 2 + 1 = 11 $\Rightarrow (11)^2 = 121$
4 + 2 + 5 + 1 = 12 $\Rightarrow (12)^2 = 144$
1 + 2 + 9 + 1 = 13 $\Rightarrow (13)^2 =$ **169** $\neq$ **196**

92. (C) Except **gaban**, all others are the book of sumitranandan pant, while gaban is book of munsi premchand.

93. (D) Except **elevation** all others are synonyms.

94. (C) J U H Y K R C P
+11 +13 +17 +7 +11 +13
M R A N R T W B
+5 +9 +13 +2 +3 +5

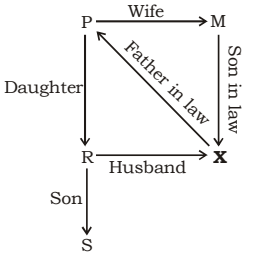
95. (B) Except **207,** all others are the multiple of 13.

96. (A) As, (7 + 2) (7 × 2) = 126
and, (6 + 3) (6 × 3) = 162
Similarly, (8 + 4) (8 × 4) = **384**

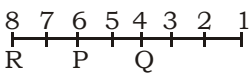
97. (A) $\frac{512}{18}$ remainder = 8
$\frac{512}{11}$ remainder = 6
$\frac{512}{9}$ remainder = 8
$\frac{512}{7}$ remainder = **1**

98. (C)

99. (D)



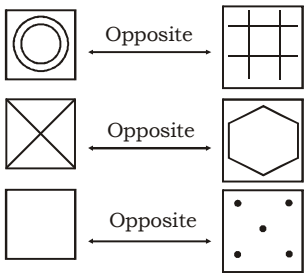
100. (B)



∴ Total number of person = **8**

101. (C) In each step, element at the upper-right position gets enlarged invests vertically and reaches the lower left corner, the existing element at the lower-left position is lost and a new small element uppears at the upper-right position.

102. (A) From firure,



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

103. (B)

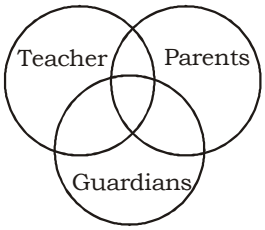
104. (C) 2×3, 5×7, 11×13, 17×19, **23×29**
Next prime Number, Next prime Number, Next prime Number, Next prime Number

105. (D) 3 12 21 39 57 84 **111**
+9 +9 +18 +18 +27 +27

106. (A) 12 5 **0** –3 –4
–7 –5 –3 –1

107. (B) Let the present age of Tarun = x years
ATQ,
$(x + 2) = 2(x - 11)$
$\Rightarrow x + 2 = 2x - 12$
$\Rightarrow x = 24$

108. (A)



109. (C) a**c**b**d**/cb**d**a/b**d**a**c**

110. (D) Neither conclusion I nor II follows.

111. (A) As, L H
$\downarrow \quad \downarrow$
$1+2 + 8 = 11 \Updownarrow 1+1 = 2$
and, C P
$\downarrow \quad \downarrow$
$3 + 1+6 = 10 \Updownarrow 1+0 = 1$
Similarly, R F
$\downarrow \quad \downarrow$
$1+8 + 6 = 15 \Updownarrow 1+5 = \mathbf{6}$

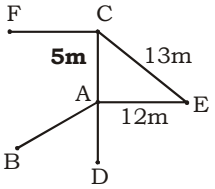
112. (C) As, (9 + 4) × 8 = 104
and, (8 + 6) × 7 = 98
Similarly, (7 + 5)×6 = **72**

113. (D) C H U R C H
↓ ↓ ↓ ↓ ↓ ↓
3 2 4 1 6 5

114. (A)

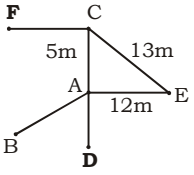
115. (D)

116. (C)



∴ Required distance = $\sqrt{13^2 - 12^2}$
= 5 m

117. (B)



∴ D is in **south east** direction of F.

118. (A)

119. (D) Number of triangles = **10**

120. (C) Required number of matches = 40 – 1 = **39**

Answer key

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

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