

RPF MOCK TEST - 2 (SOLUTION)

51. (B) % change = $\frac{R}{100 \pm R} \times 100\%$
 Required fraction = $\frac{50}{(100 + 50)} = \frac{1}{3}$
52. (D) Let CP of article = 100
 Profit % = 25%
 CP of article = $\frac{8750 \times 100}{125} = ₹ 7000$
 \therefore Level price of article = $\frac{7000 \times 100}{70}$
 = ₹ 10000
53. (A) Let CP of first cycle = x
 ATQ,
 $\frac{x \times 120}{100} + \frac{(1600 - x) \times 110}{100} - \frac{x \times 110}{100}$
 $- \frac{(1600 - x) \times 120}{100} = 5$
 $\Rightarrow 120x + 176000 - 110x - 110x - 19200$
 $+ 120x = 500$
 $\Rightarrow 20x = 16000 - 500$
 $\Rightarrow x = 775$
 \therefore cost price of second cycle = $1600 - 775$
 = ₹ 825
 \therefore Required difference = $825 - 775 = ₹ 50$
54. (C) CP of motor car = ₹ 17,000
 MP of motor car = ₹ 17,000 $\times \frac{100}{85}$
 = ₹ 20,000
 After successive discount, CP
 = $20,000 \times \frac{95}{100} \times \frac{90}{100}$
 = ₹ 17,100
55. (D) Rate of interest = $\frac{2}{5} \times \frac{100}{5} = 8\%$
 Let, Principal = 100
 Principal : Interest rate
 $100 \left. \begin{array}{l} \nearrow \\ \searrow \end{array} \right\} \times \frac{1}{4}$: $8 \left. \begin{array}{l} \nearrow \\ \searrow \end{array} \right\} \times \frac{1}{4}$
 25 : 2
 Hence, Required ratio = 25 : 2
56. (C) Remaining amount
 = $50,000 - (8000 + 24000)$
 = ₹ 18000

- ATQ,
 $\frac{8000}{100} \times \frac{11}{2} \times 1 + \frac{24000 \times 6}{100} \times 1 +$
 $\frac{18000 \times R}{100} = 3680$
 $\Rightarrow \frac{44000}{100} + \frac{144000}{100} + \frac{18000R}{100} = 3680$
 $\Rightarrow \frac{188000}{100} + \frac{188000R}{100} = 3680$
 $\Rightarrow \frac{18000R}{100} = 3680 - 1880$
 $\Rightarrow 180R = 1800$
 R = 10%
 Hence, Required rate % = 10%
57. (C) $1 \xrightarrow[2 \text{ times}]{6 \text{ years}} 2 \xrightarrow[4 \text{ times}]{6 \text{ years}} 4 \xrightarrow[8 \text{ times}]{6 \text{ years}} 8$
58. (C) $10\% = \frac{10}{100} = \frac{1}{10}$
 Let principal = 1000
 First years = 100
 second years = 100 + 10
 ATQ,
 10 unit = 28
 \therefore Principal = $\frac{28}{10} \times 1000 = ₹ 2800$
 Now, Interest is half-yearly
 then, rate = 5%
 and, time = 4 years
 $5\% = \frac{5}{100} = \frac{1}{20}$
 Now, Principal = 2800
 1st year = 140
 2nd year = 140 + 7
 3rd year = 140 + 7 + 7 + .35
 4th year = 140 + 7 + 7 + 7 + 1.05
 \therefore Required difference = ₹ 43.41
59. (D) ATQ,
 SP of the mixture = ₹ 20
 CP of the mixture = $20 \times \frac{100}{125} = ₹ 16$
 Ratio of water to chemical = 25 - 16 : 16
 = 9 : 16

60. (B) ATQ,

$$\frac{2x}{2} + \frac{3x}{4} + \frac{5x}{10} = 90$$

$$\Rightarrow \frac{20x + 15x + 10x}{20} = 90$$

$$\Rightarrow 45x = 1800$$

$$\Rightarrow x = \frac{1800}{45} = 40$$

$$\therefore 25 \text{ paise coins are} = 40 \times 3 = 120$$

61. (B) $(3 + \sqrt{2}) : x : (12 - \sqrt{32})$
 $a : b : c$
 mean proportion
 $b^2 = a \times c$
 $= \sqrt{(3 + \sqrt{2}) \times (12 - \sqrt{32})}$
 $= \sqrt{(3 + \sqrt{2}) \times (12 - 4\sqrt{2})\sqrt{28}} = 2\sqrt{7}$

62. (D) A can do the work in $\frac{5 \times 2}{1} = 10$ days
 B complete 1 work in $= \frac{9 \times 5}{3} = 15$ days
 C complete work in $= 8 \times \frac{3}{2} = 12$ days

A \rightarrow 10
 B \rightarrow 15
 C \rightarrow 12

6
 4
 5

60

$= A + B + C$ one day work = 15 units
 \Rightarrow They will complete the whole work
 in $= \frac{60}{15} = 4$ days

63. (C) Let additional men be x

$$\frac{25 \times 24}{\frac{1}{3}} = \frac{(25 + x) \times 12}{\frac{2}{3}}$$

$$\Rightarrow x = 75$$

64. (B)

Total Capacity
21

Efficiency \rightarrow 7 6

Hours \rightarrow 3 $\frac{7}{2}$
 A (A-leakage)

Hence, leakage will empty the fully filled tank = $\frac{21}{1} = 21$ hrs

65. (A) Let total capacity = 42 units
 $\therefore (A + B + C)$ per hour work = $\frac{42}{6} = 7$ units
 $A + B = \frac{28}{7} = 4$ units/hr
 $\therefore C$ can alone fill the cistern in = $\frac{42}{(7-4)} = 14$ hrs.

66. (D) Difference of the length of the objects which is crossed by train and the result is divided by difference of time
 Speed of train = $\frac{(210-122)}{(25-17)} = 11$ m/s
 $= 11 \times \frac{18}{5} = 39.6$ km/hr

67. (D) Relative speed of the two trains
 $= (48 + 42) \times \frac{5}{18} = 25$ m/s
 and, Distance travelled in 12 sec. at 25 m/s = $25 \times 12 = 300$ m
 Length of first train = $300 \times \frac{2}{3} = 200$ m
 Distance travelled by first train in 45 sec
 $= 48 \times \frac{5}{18} \times 45 = 600$ m
 Length of platform = $600 - 200 = 400$ m

68. (C) Let distance = x km
 ATQ,

$$\frac{x}{14} + \frac{x}{6} = 5$$

$$\Rightarrow \frac{3x + 7x}{42} = 5$$

$$\Rightarrow 10x = 42 \times 5$$

$$\Rightarrow x = \frac{42 \times 5}{10} = 21$$
 km

69. (B) $[(251)^{98} + (21)^{29} - (106)^{100} + (705)^{35} - (16)^4 + (259)]$
 Unit place of 1, 5 and 6 will remain same
 There is no change, they will be 1, 5
 $= [(1)^{98} + (1)^{29} - (6)^{100} + (5)^{35} - (6)^4 + 9]$
 $= (1 + 1 - 6 + 5 - 6 + 9)$
 $= 16 - 12 = 4$

70. (C) Let the number of friend's in begining = x
 ATQ,

$$\frac{108}{(x-3)} - \frac{108}{x} = 3$$

$$\Rightarrow \frac{108x - 108x + 324}{x(x-3)}$$

$$\Rightarrow 108 = x^2 - 3x$$

$$\Rightarrow x^2 - 12x + 9x - 108 = 0$$

$$\Rightarrow (x - 12)(x + 9) = 0$$

$$\Rightarrow x = 12$$

\therefore Required number = $12 - 3 = 9$

71. (D) ATQ,

$$\left(\frac{2}{3} \times \frac{13}{4}\right) - \frac{3}{4} \times \left(\frac{9}{4} - \frac{5}{3}\right)$$

$$= \left(\frac{2}{3} \times \frac{13}{4}\right) - \frac{3}{4} \times \left(\frac{27 - 20}{12}\right)$$

$$= \frac{13}{6} - \frac{3}{4} \times \frac{7}{12}$$

$$= \frac{13}{6} - \frac{7}{16} \Rightarrow \frac{104 - 21}{48} = \frac{83}{48}$$

72. (B) $\sqrt{-\sqrt{3} + \sqrt{3 + 8\sqrt{7 + 4\sqrt{3}}}}$

$$= \sqrt{-\sqrt{3} + \sqrt{3 + 8\sqrt{4 + 3 + 2 \times 2 \times \sqrt{3}}}}$$

$$= \sqrt{-\sqrt{3} + \sqrt{3 + 8\sqrt{(2 + \sqrt{3})^2}}}$$

$$= \sqrt{-\sqrt{3} + \sqrt{3 + 8(2 + \sqrt{3})}}$$

$$= \sqrt{-\sqrt{3} + \sqrt{3 + 16 + 8\sqrt{3}}}$$

$$= \sqrt{-\sqrt{3} + \sqrt{(\sqrt{3})^2 + (4)^2 + 2 \times 4 \times \sqrt{3}}}$$

$$= \sqrt{-\sqrt{3} + \sqrt{(4 + \sqrt{3})^2}}$$

$$= \sqrt{-\sqrt{3} + 4 + \sqrt{3}} = \sqrt{4} = 2$$

73. (C)

| | | | |
|-----------------|-----------------|-----------------|-------------------|
| $\sqrt[3]{2}$ | $\sqrt{3}$ | $\sqrt[3]{5}$ | 1.5 |
| ↓ | ↓ | ↓ | ↓ |
| $2^{1/3}$ | $3^{1/2}$ | $5^{1/3}$ | |
| ↓ | ↓ | ↓ | ↓ |
| $2^{2/6}$ | $3^{3/6}$ | $5^{2/6}$ | $1.5^{6/6}$ |
| ↓ | ↓ | ↓ | ↓ |
| $\sqrt[6]{2^2}$ | $\sqrt[6]{3^3}$ | $\sqrt[6]{5^2}$ | $\sqrt[6]{1.5^6}$ |
| ↓ | ↓ | ↓ | ↓ |
| $\sqrt[6]{4}$ | $\sqrt[6]{27}$ | $\sqrt[6]{25}$ | $\sqrt[6]{11.35}$ |

74. (D) ATQ,

$$= \frac{19}{43} + \frac{1}{2 + \frac{1}{3 + \frac{1}{1 + \frac{1}{4}}}}$$

$$= \frac{19}{43} + \frac{1}{2 + \frac{1}{3 + \frac{4}{5}}}$$

$$= \frac{19}{43} + \frac{1}{2 + \frac{5}{19}}$$

$$= \frac{19}{43} + \frac{19}{43} = \frac{38}{43}$$

$$\Rightarrow \frac{38}{43}$$

75. (C) It is possible when there are 5 sundays in the month starting from 2 of that month. In that case of 3 even dates will be sunday on 2, 9, 16, 23, 30. So, 15 will be saturday

76. (D) Let the average expenditure = ₹ x

ATQ,

$$\Rightarrow 35 \times x + 42 = 42(x - 1)$$

$$\Rightarrow 35x + 42 = 42x - 42$$

$$\Rightarrow 7x = 84$$

$$\Rightarrow x = 12$$

\therefore Initial expenditure = $35 \times 12 = ₹ 420$

77. (A) Let the present age of son = x years and, the father's age = 3x + 3

ATQ,

$$2(x + 3) + 10 = 3x + 3 + 3$$

$$\Rightarrow 2x + 6 + 10 = 3x + 6$$

$$\Rightarrow 2x + 16 = 3x + 6$$

$$\Rightarrow x = 10$$

\therefore Father's present age = $3x + 3 = 3 \times 10 + 3 = 33$ years

78. (A) Let fraction is $\frac{x}{y}$

ATQ,

$$\therefore \frac{x - 4}{y + 1} = \frac{1}{6}$$

$$\Rightarrow 6x - 24 = y + 1$$

$$\Rightarrow 6x - y - 25 = 0 \dots\dots(i)$$

Again, $\frac{x + 2}{y + 1} = \frac{1}{3}$

$$\Rightarrow 3x + 6 = y + 1$$

$$\Rightarrow 3x - y + 5 = 0 \dots\dots(ii)$$

On solving equation (i) and (ii), and, y = 35

$$\therefore \frac{x}{y} = \frac{10}{35} = \frac{2}{7}$$

\therefore Required LCM = $2 \times 7 = 14$

79. (A) Greatest prime number = 97
Least prime number 2
 \therefore Required difference = $97 - 2 = 95$

80. (B) ATQ,
 $R + r = 10$
 $\Rightarrow (R + r)^2 = 100$
 $\Rightarrow R^2 + r^2 + 2Rr = 100$
 $\Rightarrow R^2 + r^2 = 100 - 2Rr$
 and, $\frac{4}{3}\pi R^3 + \frac{4}{3}\pi r^3 = 880$
 $\Rightarrow R^3 + r^3 = \frac{880 \times 3 \times 7}{22 \times 4}$
 $\Rightarrow (R + r)(R^2 + r^2 - Rr) = 210$
 $\Rightarrow 10 \times (100 - 2Rr - Rr) = 210$
 $\Rightarrow 100 - 3Rr = 21$
 $\Rightarrow 3Rr = 100 - 21 = 79$
 $\Rightarrow Rr = \frac{79}{3} = 26\frac{1}{3}$

81. (B) Radius of semi-circular sheet = r
 $\Rightarrow \frac{28}{2}$
 $r = 14$ cm
 Circumference of sheet = πr
 $= 14\pi$ cm
 Sheet is folded to form a cone
 Let radius of cone = r_1
 \therefore The circumference of base of cone
 \Rightarrow Circumference of sheet
 $\therefore 2\pi r_1 = 14\pi$
 $r_1 = 7$ cm
 \therefore radius of cone = 7 cm
 slant height = radius of semi-circular sheet $r = 14$ cm
 \therefore height $\sqrt{(14)^2 - (7)^2}$
 $= \sqrt{147} = 12$ cm (approx)

82. (B) Average number of people using mobile service for all the years
 $= \frac{20 + 25 + 10 + 35 + 25}{5}$ thousands
 $= 23000$

83. (C) Required ratio
 $= 20 : 15 = 4 : 3$

84. (A) Required percentage = $\frac{40}{50} \times 100 = 80\%$

85. (A) Required percentage = $\frac{15}{75} \times 100 = 20\%$

86. (A)

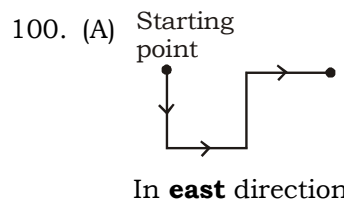
87. (B) As, $\begin{matrix} A & L & I & V & E \\ \swarrow & \searrow & \swarrow & \searrow & \swarrow \\ L & A & E & V & I \end{matrix}$
 Similarly, $\begin{matrix} W & E & N & T \\ \swarrow & \searrow & \swarrow & \searrow \\ E & W & T & N \end{matrix}$

88. (D) As, $(2)^2 \Rightarrow (2)^3$
 Similarly, $(1)^2 \Rightarrow (1)^3 = 1$
 89. (A) As, $818 \Rightarrow (2)^3 18 \Rightarrow \sqrt{18-2} = 4$
 Similarly, $126 \Rightarrow (1)^3 26 \Rightarrow \sqrt{26-1} = 5$
 90. (C) As, $8785 - 159 = 8626$
 Similarly, $6579 - 159 = 6420$

91. (B) $\begin{matrix} P & N & Q & X & B & J & V & F \\ \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow \\ -2 & +3 & +7 & & +8 & +12 & +10 & \\ \\ L & O & K & P & O & R & T & M \\ \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow \\ +3 & -4 & +5 & & +1 & +2 & -7 & \end{matrix}$

92. (D) Expect **K.R. Narayana**, all others were the prime ministers of India. while K.R. Narayana was the **president** of India.
 93. (A) Except **41 - 72**, in all others second number is divisible by the sum of digits of first number.
 94. (B)
 95. (D) Except **6354**, sum of digits of all others is odd.
 96. (B) $3 \times 1 = 3$
 $3 \times 2 = 6$
 $6 \times 3 = 18$
 $18 \times 4 = 72$
 $72 \times 5 = 360$
 $360 \times 6 = 2160$
 $2160 \times 7 = 15120$
 97. (A) $6 + 7 = 13 \Rightarrow 13 - 2 = 11$ (left)
 $\Rightarrow 13 + 1 = 14$ (right)
 $11 + 14 = 25 \Rightarrow 25 - 2 = 23$ (left)
 $\Rightarrow 25 + 1 = 26$ (right)
 $23 + 26 = 49 \Rightarrow 49 - 2 = 47$ (left)
 $\Rightarrow 49 + 1 = 50$ (right)

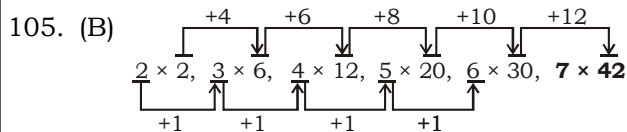
98. (B)
 99. (C) Number of female members
 $= (1 + 3 + 1 + 2 + 2)$
 $= 9$



101. (A)
 102. (A)
 103. (A)
 104. (A) $\begin{matrix} 507, & 536, & 576, & 629, & 699 \\ \uparrow & \uparrow & \uparrow & \uparrow & \uparrow \\ +29 & +40 & +53 & +70 & \\ \uparrow & \uparrow & \uparrow & \uparrow & \\ +11 & +13 & +17 & & \end{matrix}$

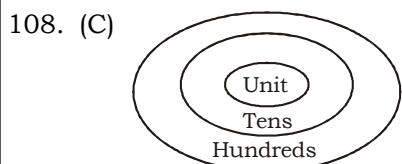
KD
Campus
KD Campus Pvt. Ltd

2007, OUTRAM LINES, 1ST FLOOR, OPPOSITE MUKHERJEE NAGAR POLICE STATION, DELHI-110009

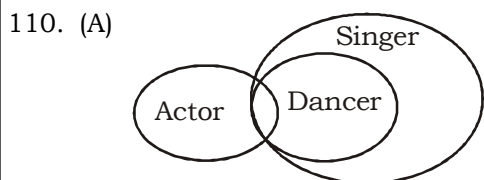


106. (A) $2^3 + 1 = 9$
 $3^3 - 1 = 26$
 $4^3 + 1 = 65$
 $5^3 - 1 = 124$
 $6^3 + 1 = \mathbf{217}$

107. (A) Last day of the year would be **sunday**.



109. (D) **acca/abab/acca/ab**



- I. ✓
 II. ×

Hence, only conclusion I follows.

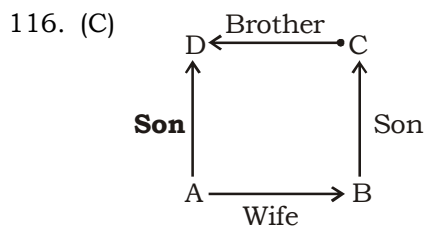
111. (D) As, $(7)^3 - 8 = 335$
 and, $(6)^3 - 5 = 211$
 Similarly, $(7)^3 - 4 = \mathbf{339}$

112. (A) All are starting letter of days of week.
 So, next will be **S**.

113. (B) A B C D E
 ↓ ↓ ↓ ↓ ↓
3 2 1 4 5

114. (D)

115. (A)



117. (D)

118. (A) Letters represent the men who are physicians = **A, B, C**

119. (C) Total number of triangles = **27**

120. (D)

Answer key

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

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