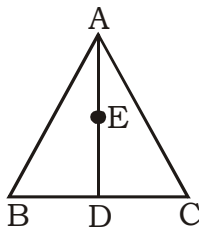


RPF MOCK TEST – 7 (SOLUTION)

51. (B) Required average = $\frac{7(1+3+5+7+9+11+13+15+17)}{9}$
 $= \frac{7 \times 81}{9} = 63$

52. (C) ATQ,



$BD = DC = \frac{16\sqrt{3}}{2} = 8\sqrt{3}$ cm

Now, $\sqrt{(16\sqrt{3})^2 - (8\sqrt{3})^2} = AD$

$\Rightarrow AD = \sqrt{768 - 192}$

$\Rightarrow AD = 24$ cm

$\therefore DE = \frac{24}{3} = 8$ cm

\therefore Area of incircle = $2 \times \frac{22}{7} \times 8$
 $= 50.28$ cm²

53. (C) ATQ,

$a_6 = a + (6-1)d$

and, $a_{16} = a + (16-1)d$

Then $a + 5d = 24$ (i)

$a + 15d = 84$ (ii)

One solving equation (i) and (ii),

$10d = 60$

$\Rightarrow d = 6$

and, $a + 5 \times 6 = 24$

$a = -6$

54. (A) ATQ,

Boys	Girls	Teacher
5	4	2
35	28	8

\therefore Required ratio = $35 + 28 : 8 = 63 : 8$

55. (D) Let first investment = $4x$

and, second investment = $7x$

ATQ,

Combined loss = $\frac{4x \times 20}{4x + 7x} - \frac{7x \times 15}{4x + 7x} \times 100$
 $= \frac{-25x}{11x} = 2\frac{3}{11}\%$

56. (A) Required answer = $\frac{2}{3} \times \frac{13}{4} - \frac{3}{4} \left(\frac{9}{4} - \frac{5}{3} \right)$
 $= \frac{13}{6} - \frac{3}{4} \left(\frac{7}{12} \right)$
 $= \frac{104 - 21}{48} = \frac{83}{48}$

57. (B) Required% = $\frac{1}{4} \times 3 + \frac{2}{3} \times 6 + \left(1 - \frac{1}{4} - \frac{2}{3} \right) \times 12$
 $= \frac{3}{4} + 4 + 1$
 $= \frac{3 + 16 + 4}{4} = \frac{23}{4} = 5\frac{3}{4}\%$

58. (B) Area of the square plot
 $= 45 \times 40 = 1800$ sq m

$\Rightarrow \frac{1}{2} \times (\text{diagonal})^2 = 1800$

\therefore diagonal = $\sqrt{1800 \times 2} = 60$ m

59. (A) Remaining distance

$= (3584 - 1140 - 1608)$ km = 536 km
 This distance is covered at the rate of

$\frac{536}{8} = 67$ kmph

Average speed of whole journey

$= \frac{3584}{56} = 64$ kmph

\therefore Required difference

$= (67 - 64)$ kmph = 3 kmph more

60. (D) (ii) Part of the cistern filled in 1 hour

when pipes P and S are open = $\frac{1}{4} - \frac{1}{10}$

$= \frac{5 - 2}{20} = \frac{3}{20}$

Hence, the cistern will be filled in $\frac{20}{3}$ hr.

(iii) Part of the cistern filled in 1 hour when pipes P, R and S are open

$= \frac{1}{4} + \frac{1}{12} - \frac{1}{10} = \frac{15 + 5 - 4}{60} = \frac{14}{60} = \frac{7}{30}$

Hence, the cistern will be filled in $\frac{40}{11}$ hr.

Hence, the last one take minimum time than the others.

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61. (B) Difference of time = 9 min – 8 min 52 sec
= 8 sec

Distance covered by man in 8 min 52 sec.
= Distance covered by sound in 8 sec
= $350 \times 8 = 2800$ m

$$\therefore \text{Speed of man} = \frac{2640}{352}$$

$$= \frac{2800}{532} \times \frac{18}{5} = 18.95 \text{ kmph}$$

62. (C) Let the average age be x .
Total age = 48x
Let the required age be y .
ATQ,

$$48x - 62 = 48x - 48 \times \frac{1}{8} + y$$

$$\Rightarrow y = -62 + 48 \times \frac{1}{8}$$

$\Rightarrow y = -56$ years
Age should not be negative.
i.e., the new comer age is 56 years

63. (B) ATQ,
3 part of first liquid and 6 part of second liquid i.e., total part = 9

$$\Rightarrow 16 \times \frac{3}{9} + 4 \times \frac{6}{9}$$

as, 16% milk has 3 part and 4% milk has 6 part

$$\text{So, Total milk} = \frac{16}{3} + \frac{8}{3} = \frac{24}{3} = 8\%$$

64. (A) SI at the rate of 4% for 2 year

$$= \frac{P \times 4 \times 2}{100} = \frac{8P}{100} \dots\dots\dots(i)$$

SI at the rate of 6% for next 4 year

$$= \frac{P \times 6 \times 4}{100} = \frac{24P}{100} \dots\dots\dots(ii)$$

For next 3 years

$$\text{SI} = \frac{P \times 8 \times 3}{100} = \frac{24P}{100} \dots\dots\dots(iii)$$

$$\text{Total SI} = \frac{8P}{100} + \frac{24P}{100} + \frac{24P}{100} = \frac{56P}{100}$$

$$= ₹ 1120$$

$$\Rightarrow P = \frac{1120 \times 100}{56} = ₹ 2000$$

65. (C) Let the present age of mother be x years
 \therefore present age of son be $(30 - x)$ years
6 years ago, mother's age = $(x - 6)$ years
and son's age = $30 - x - 6 = 24 - x$ years
ATQ,

$$(x - 6) - (24 - x) = 18$$

$$\Rightarrow x - 6 - 24 + x = 18$$

$$\Rightarrow 2x - 30 = 18$$

$$\Rightarrow 2x = 18 + 30$$

$$\Rightarrow 2x = 48 \Rightarrow x = 24$$

\therefore 6 years ago mother's age was
= $24 - 6 = 18$ years

66. (A) ATQ,

$$\frac{90 \times 7}{x \times 3} = \frac{2}{1} \Rightarrow x = \frac{90 \times 7}{2 \times 3} = ₹ 105$$

67. (B) $3M + 4C = \frac{456}{7} = 108 \dots\dots\dots(i)$

$$11M + 13C = \frac{3008}{8} = 376 \dots\dots\dots(ii)$$

On solving equation (i) and (ii),
 $\Rightarrow C = 12$
 $\Rightarrow M = 20$

Let the required time be x , then
 $x(7 \times 20 + 9 \times 12) = 2480$

$$\Rightarrow x = \frac{2480}{248} = 10$$

68. (C) Required decrease

$$+20\% - 20\% + (+20\%) \text{ of } (-20\%) = -4\%$$

69. (D) We find LCM of 5, 6 and 8 = 120

$$\text{Required number} = 120K + 3$$

$$\therefore \text{ when } K = 2, 120 \times 2 + 3 = 243$$

Required number

It is completely divisible by 9

70. (D) Area of the floor = $8 \times 6 = 48$ sq m
= 4800 sq. dm

$$\text{Area of a square tile} = 4 \times 4 = 16 \text{ sq dm}$$

$$\therefore \text{ Number of tiles} = \frac{4800}{16} = 300$$

71. (C) Two angles = A and B where $A > B$.
 $\therefore A + B = 135^\circ$

$$= \left(\frac{135 \times \pi}{180} \right) \text{radian}$$

$$\Rightarrow A + B = \left(\frac{3\pi}{4} \right) \text{radian}$$

$$A - B = \frac{\pi}{12}$$

On adding these equations,

$$2A = \frac{3\pi}{4} + \frac{\pi}{12}$$

$$2A = \frac{9\pi + \pi}{12} = \frac{10\pi}{12} = \frac{5\pi}{6}$$

$$\therefore A = \frac{5\pi}{12} \text{ radian}$$

72. (D) Given equations are:

$$3x + 4y = 5 \dots\dots\dots(i)$$

$$x + 2y = 2 \dots\dots\dots(ii)$$

On solving equation (i) and (ii),

$$x = 1, y = \frac{1}{2}$$

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

73. (A) ATQ,

$$11x - 13 = -2x + 78$$

$$\Rightarrow 11x + 2x = 78 + 13$$

$$\Rightarrow 13x = 91$$

$$\Rightarrow x = \frac{91}{13} = 7$$

74. (B) ATQ,

Cistern is filled by inlet in = $3\frac{1}{2}$ hrs

$$= \frac{7}{2} \text{ hrs}$$

In 1 hr it filled $\frac{2}{7}$ part

Cistern with leakage can be filled in 4 hrs

In 1 hr it filled $\frac{1}{4}$ part

In 1 hr the leakage emptied

$$= \frac{2}{7} - \frac{1}{4} = \frac{8-7}{28} = \frac{1}{28} \text{ part}$$

Leakage will take 28 hrs to empty the cistern

75. (B) Let number of men initially = x

ATQ,

$$60x = 50(x + 8)$$

$$\therefore x = \frac{400}{10} = 40$$

76. (D) Distance travelled by A = $2 \times$ distance

between two points $\times \left(\frac{a}{a+b}\right)$

$$= 2 \times 21 \times \frac{3}{7} = 18 \text{ km}$$

77. (B) $13 \overline{)45}$

$$\frac{39}{6}$$

Required remainder = 6

78. (B) ATQ,

$$\therefore 16224 = P_1 \left(1 + \frac{4}{100}\right)$$

$$\Rightarrow 16224 = P_1 \left(1 + \frac{1}{25}\right) = \frac{26P_1}{25}$$

$$\Rightarrow P_1 = \frac{16224 \times 25}{26} = ₹ 15600$$

Again,

$$16224 = P_2 \left(1 + \frac{4}{100}\right)^2$$

$$\Rightarrow 16224 = P_2 \left(\frac{26}{25}\right)^2 = \frac{676P_2}{625}$$

$$\Rightarrow P_2 = \frac{16224 \times 625}{676} = ₹ 15000$$

$$\therefore \text{Cash value of the scooter}$$

$$= ₹ (16224 + 15600 + 15000)$$

$$= ₹ 46824$$

79. (D) ATQ,

$$9x - \frac{9}{2x} = 18 \Rightarrow x - \frac{1}{2x} = 2$$

Cubing both sides,

$$x^3 - \frac{1}{8x^3} - 3x \cdot \frac{1}{2x} \left(x - \frac{1}{2x}\right) = 8$$

$$\Rightarrow x^3 - \frac{1}{8x^3} - \frac{3}{2} \times 2 = 8$$

$$\Rightarrow x^3 - \frac{1}{8x^3} = 8 + 3 = 11$$

80. (C) ATQ,

$$P \left(1 + \frac{r}{100}\right)^4 = 67500 \quad \dots\dots(i)$$

$$P \left(1 + \frac{r}{100}\right)^2 = 4500 \quad \dots\dots(ii)$$

Dividing the equation (i) by (ii)

$$\left(1 + \frac{r}{100}\right)^2 = \frac{67500}{4500} = \frac{3}{2}$$

$$\text{So, } P \left(1 + \frac{r}{100}\right)^2 = 4500$$

$$\Rightarrow P \times \frac{3}{2} = 4500$$

$$P = ₹ 3000$$

81. (C) ATQ,

$$x^3 + y^3 = 35 \text{ and } x + y = 5$$

$$\Rightarrow x^3 + y^3 = 35$$

$$\Rightarrow (x + y)^3 - 3xy(x + y) = 35$$

$$\Rightarrow (5)^3 - 3xy(5) = 35$$

$$\Rightarrow xy = 6$$

$$\text{And, } \frac{1}{x} + \frac{1}{y} = \frac{x+y}{xy} = \frac{5}{6}$$

82. (B) ATQ,

$$A : B : C$$

$$A \times 2 = B \times 3$$

$$B = 4C \quad \dots\dots(i)$$

$$2A = 3B \quad \dots\dots(ii)$$

$$\Rightarrow A = \frac{3}{2}B$$

$$\Rightarrow C = \frac{B}{4}$$

$$A : B : C = \frac{3}{2}B : B : \frac{B}{4}$$

$$= \frac{3}{2} : 1 : \frac{1}{4}$$

$$= \frac{3 \times 2}{4} : \frac{4}{4} : \frac{1}{4}$$

$$= 6 : 4 : 1$$

$$\therefore \text{Share of B} = \frac{4}{11} \times 297000 = ₹ 1,08,000$$

83. (D) Let the incomes of each of the two companies X and Y in 1999 be x. And let the expenditure of companies X and Y in 1999 be E₁ and E₂ respectively. Then, for company X we have

$$50 = \frac{x - E_1}{E_1} \times 100$$

$$\Rightarrow x = \frac{150}{100}E_1 \dots\dots\dots(i)$$

Also, for company Y we have:

$$60 = \frac{x - E_2}{E_2} \times 100$$

$$\Rightarrow x = \frac{160}{100}E_2 \dots\dots\dots(ii)$$

From (i) and (ii), we get

$$\frac{150}{100}E_1 = \frac{160}{100}E_2$$

$$\Rightarrow \frac{E_1}{E_2} = \frac{160}{150} = \frac{16}{15} = 16 : 15$$

\therefore Required ratio = 16 : 15

84. (C) Let the incomes in 2000 of companies X and Y be 3x and 4x respectively, and let the expenditure in 2000 of companies X and Y be E₁ and E₂ respectively.

Then, for company X, we have

$$65 = \frac{3x - E_1}{E_1} \times 100$$

$$\Rightarrow E_1 = 3x \times \left(\frac{100}{165}\right) \dots\dots\dots(i)$$

For company Y we have

$$50 = \frac{4x \times E_2}{E_2} \times 100$$

$$\Rightarrow E_2 = 4x \times \left(\frac{100}{150}\right) \dots\dots\dots(ii)$$

From (i) and (ii), we get

$$\frac{E_1}{E_2} = \frac{3x \times \left(\frac{100}{165}\right)}{4x \times \left(\frac{100}{150}\right)} = \frac{3 \times 150}{4 \times 165} = \frac{15}{22}$$

$$= 15 : 22$$

\therefore Required ratio = 15 : 22

85. (A) Let the income of company X in 1998 be ₹ x crores

$$\text{Then, } 55 = \frac{x - 200}{200} \times 100$$

$$\Rightarrow x = ₹ 310 \text{ crore}$$

\therefore Expenditure of company X in 2001 = income of company X in 1998 = ₹ 310 crores

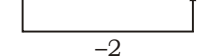
Let the income of company X in 2001 be ₹ z crores

$$\text{Then, } 50 = \frac{z - 310}{310} \times 100$$

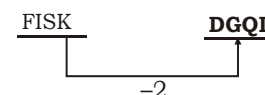
$$\Rightarrow z = ₹ 465 \text{ crore}$$

\therefore Income of company X in 2001 = ₹ 465 crores

86. (A) Head is the part of human body and Arc is the part of circle.

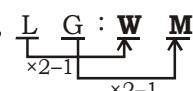
87. (C) As, $\frac{PZQW}{NXOU}$


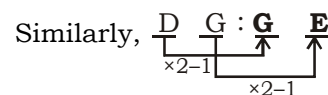
Similarly,



88. (A) $7 \Rightarrow (7 \times 2) + 5 = 19$

$$10 \Rightarrow (10 \times 2) + 5 = \mathbf{25}$$

89. (C) As, $\frac{L \quad G}{\times 2 - 1} : \frac{W \quad M}{\times 2 - 1}$




90. (C) $\frac{16}{\times 2 + \left(\frac{16}{2}\right)} : \frac{40}{\times 2 + \left(\frac{20}{2}\right)} :: \frac{20}{\times 2 + \left(\frac{20}{2}\right)} : \frac{50}{\times 2 + \left(\frac{20}{2}\right)}$

91. (B) Bigger, Greater and Taller represents the size whereas Faster represents the speed.

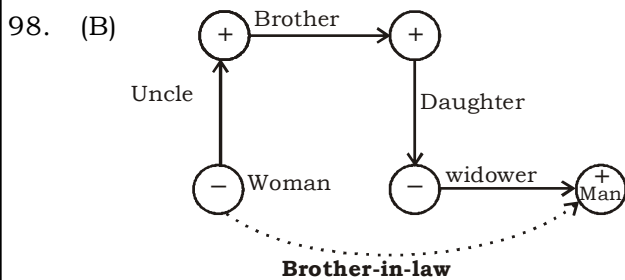
92. (D) $\frac{A \quad E \quad I \quad M}{+4 \quad +4 \quad +4} \quad \frac{B \quad F \quad J \quad N}{+4 \quad +4 \quad +4}$
 $\frac{C \quad G \quad K \quad O}{+4 \quad +4 \quad +4} \quad \frac{F \quad D \quad K \quad N}{-2 \quad +7 \quad +3}$

93. (C) $140 = (45 \times 3) + 5$
 $110 = (35 \times 3) + 5$
 $\mathbf{100 = (30 \times 3) + 10}$
 $80 = (25 \times 3) + 5$

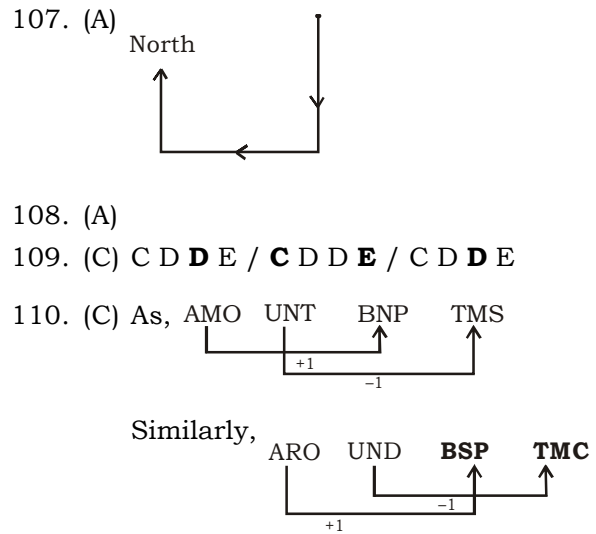
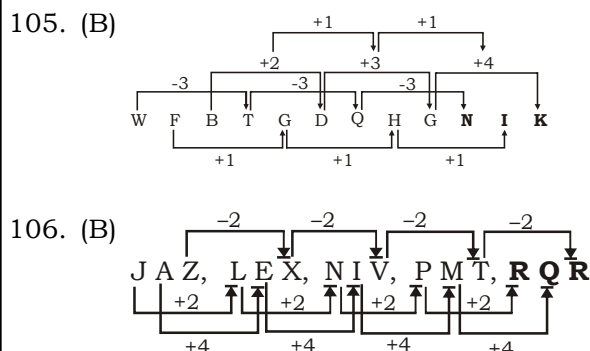
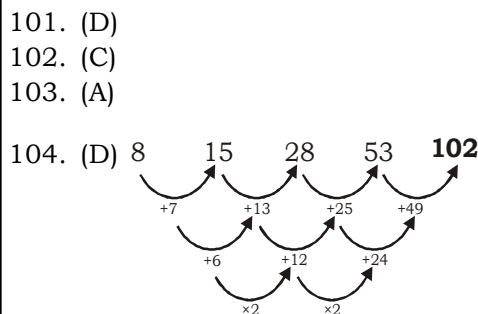
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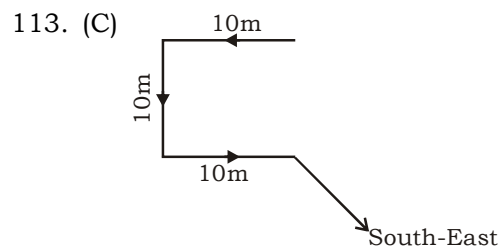
94. (B) $4246 \Rightarrow 4 \times 6 = 24$
8314 $\Rightarrow 8 \times 4 \neq 31$
 $9546 \Rightarrow 9 \times 6 = 54$
 $7284 \Rightarrow 7 \times 4 = 28$
95. (B) Except (19, 20), In others, one is multiple of another.
96. (B) $(24+20) - 2(24-20) = 44 - 8 = 36$
 $(15+11) - 2(15-11) = 26 - 8 = 18$
 $(55+40) - 2(55-40) = 95 - 30 = 65$
97. (D) $13 \Rightarrow 13^2 = 169$ and $31^2 = 961$
 $15 \Rightarrow 15^2 = 225$ and $51^2 = 2601$
 $12 \Rightarrow 12^2 = 144$ and $21^2 = 441$



99. (A)
100. (D) Let the age of the wife = x
 Then, the age of the man = $x + 3$
 Age of the son = $\frac{x+3}{4}$
 A.T.Q $\frac{x+3}{4} + 3 = 15$
 $x = 45$
 \therefore Age of his wife = 45 years



111. (A) $56 \times 11 \Rightarrow 56 - 11 = 45 \Rightarrow 4 + 5 = 9$
 $37 \times 13 \Rightarrow 37 - 13 \Rightarrow 24 \Rightarrow 2 + 4 = 6$
 $42 \times 12 \Rightarrow 42 - 12 = 30 \Rightarrow 3 + 0 = 3$
 $87 \times 77 \Rightarrow 87 - 77 = 10 \Rightarrow 1 + 0 = 1$
112. (B) $8 \times 7 - 8 + 40 \div 2$
 After changing the signs as per the given details,
 $8 + 7 \times 8 \div 40 - 2$
 $= 8 + 7 \times \frac{1}{5} - 2$
 $= 6 + \frac{7}{5} = \frac{37}{5}$



- \therefore He is walking in South-East direction.
114. (B) Only conclusion II follows.
115. (D)
116. (B)
117. (A)
118. (B) Strength of class = $(14 + 22) - 4 = 32$
119. (C) Rohit > Ajay > Anil > Suresh > Om
120. (D)

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Answer key

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