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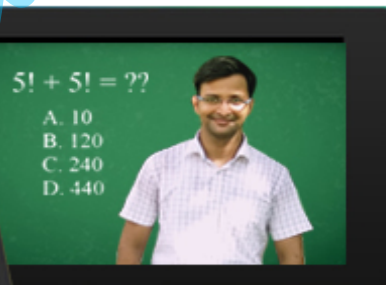
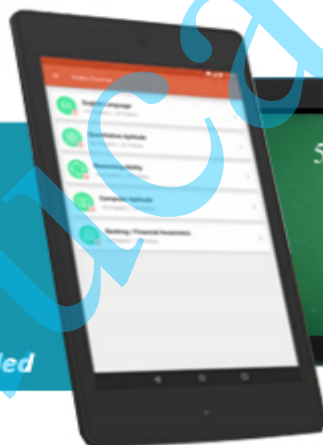
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BANK OF BARODA Manipal

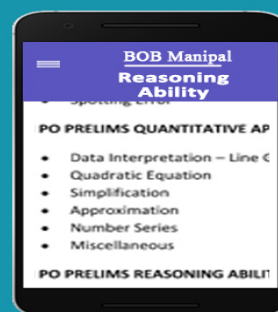
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BANK OF BARODA (QUANTITATIVE APTITUDE) MEMORY BASED PAPER -SOLUTIONS

Directions (51 - 55):

Males in company = $\frac{86}{75+86} \times 1650 = 860$

Females in company = $1650 - 860 = 790$

Males in Product development department = 198

Employees in Sales and marketing department = $\frac{18}{100} \times 1650 = 297$

Males in Sales and marketing department = $\frac{5}{9} \times 297 = 165$

Females in Sales and marketing department = 132

Males in finance department = 77

Females in Finance department = $\frac{5}{7} \times 77 = 55$

Females in Product development department = 165

Males in HR department = $77 \times 2 = 154$

Males in R&D and reinvestment department = $860 - (198+165+77+154) = 266$

Females in R&D and reinvestment department = $\frac{19}{14} \times 266 = 361$

Females in HR department = $790 - (132 + 55 + 165 + 361) = 77$

51. (e) required difference = $266 - 165 = 101$

52. (b) required percentage = $\frac{361}{790} \times 100 \approx 45.7\%$

53. (b) required percentage = $\frac{165-55}{165} \times 100 = 66\frac{2}{3}\%$

54. (b) no. of males in Product development, Sales and marketing and HR departments = $198 + 165 + 154 = 517$
No. of females in Product development, finance and R&D and reinvestment department = $361 + 55 + 165 = 581$
Difference = 64

55. (b) females shifted from Sales and marketing Department = $\frac{5}{12} \times 132 = 55$

Females in HR department = $77 + 55 = 132$

Males in HR department = 154

Required ratio =

$$\frac{154}{132} = 1.17$$

56. (d); Total No. of students in IT = $\frac{21}{100} \times 7800 = 1638$

No. of boys in IT = $1638 - (\frac{28}{100} \times 4550) = 364$

Required percentage = $\frac{364}{1638} \times 100 = 22.22\%$

57. (c); Boys in IT = 364

Boys in mechanical = 949, total boys in IT and Mechanical together = 1313

58. (b); No. of girls in computer science and Electronics and communication together = 1365

No. of boys in Civil and computer science together = 1573

Required percentage = $\frac{1365}{1573} \times 100 \approx 87\%$

59. (b);

Required % age = $\frac{364}{7800} \times 100 = 4.66 \approx 4.67\%$

60. (e); No. of girls in computer science = $\frac{14}{100} \times 4550 = 637$

No. of boys in IT = $(\frac{21}{100} \times 7800) - (\frac{28}{100} \times 4550) = 364$

Ratio = $\frac{637}{364} = 7 : 4$

61. (a); $+(8 \times 6) - 1, +(8 \times 7) - 1, +(8 \times 8) - 1, +(8 \times 9) - 1, +(8 \times 10) - 1$

$$284 + (8 \times 9) - 1 = 284 + 71 = 355$$

62. (d); $+(0)^2, -5^2, +10^2, -15^2, +20^2, -25^2, \dots$
 $1197 - 25^2 = 1197 - 625 = 572$

63. (d); $+(11^2, +9^2, +7^2, +5^2, +3^2, \dots)$
 $290 + 5^2 = 290 + 25 = 315$

64. (e); $\times 1 + 2^3, \times 2 + 3^3, \times 3 + 4^3, \times 4 + 5^3, \times 5 + 6^3, \times 6 + 7^3, \dots$

$$1473 \times 5 + 6^3 = 7581$$

65. (e); $-80, +10, -40, +20, \dots$
 $447 - 20 = 427$

66. (a); $(13.68)^2 - (4.78)^2 + (8.28)^3 - (5.24)^3$
 $= 187 - 22 + 567 - 143 = 165 + 424 = 589 \approx 600$

67. (c); $32 \div 4 \div 10 + 29 = ?$
 $? = 8 \div 10 + 29$
 $? = 29.8 \approx 30$

68. (e); $\sqrt{?} = (1248.28 + 51.7) \div 99.9 - 7.98$

$$\sqrt{?} = (1300 \div 100) - 8$$

$$\sqrt{?} = 5$$

$$? = 25$$

71. (b); $2040 + 2300 + 2400 + 2200 + 2090 + 2120 = 13150$

72. (d); $\frac{2250-2180}{2180} \times 100 = 3.21\%$

73. (c); Number of students in college P in 2008 = 2540.
Total number of students in P in all years = 13780.
Required percentage = $\frac{2540}{13780} \times 100 = 18\%$ (approx.)

74. (a); Required ratio = $(2250 + 2480) : (2260 + 2440)$
 $= 4730 : 4700$
 $= 473 : 470$

75. (e); $\frac{(2500+2250+2450+2150+2020+2300)}{6} = \frac{13670}{6} = 2278$

76. (a); Average = $\frac{1}{6} \times [150 + 300 + 300 + 500 + 650 + 800] = 450$

77. (e); $650 : 700 : 550$
 $= 13 : 14 : 11$

78. (c); Req% = $\frac{250-200}{200} \times 100 = 25\%$

79. (d); $\frac{800+700+660}{3} = 720$

80. (a); $300 : 200 : 350 = 6 : 4 : 7$

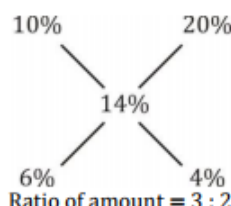
81. (b); Let Required men = x

$$\frac{60 \times 60}{\frac{3}{4}} = \frac{(60-x) \times 30}{\frac{1}{4}}$$

$$40 = 60 - x$$



82. $x = 20$
(a); Let the two digit number = $10x + y$
 $\therefore 10x + y - x - 10y = 1.8 \times 10$
 $9x - 9y = 18$
 $x - y = 2$
83. (d); $A \rightarrow 3 \times 700 + 3 \times 500 + 6 \times 620$
 $B \rightarrow 600 \times 12$
 $\therefore A \rightarrow 7320 = 366 = 183$
 $B \rightarrow 7200 = 360 = 180$
 \therefore Ratio of their investment = $183 : 180$
 \therefore Amount, A receive = $\frac{183}{363} \times 726$
 $= 183 \times 2 = 366$ Rs.
84. (b); Let initial amount = 100
Now, total amount = $100 + 14 + \frac{45}{100} \times 114$
 $= 165.3$
 $\therefore 165.3 \rightarrow 16530$
 $1 \rightarrow \frac{16530}{100}$
 $\therefore 100 \rightarrow 100 \times 100 = 10,000$ Rs.
85. (c); C.P. S.P.
 $80x \quad 90x$
 $(80x + 10) \quad (90x + 2)$
 $\therefore \frac{105}{100}(80x + 10) = 90x + 2$
 $8400x + 1050 = 9000x + 200$
 $600x = 850$
 $x = \frac{85}{60}$
 \therefore Required C.P. = $\frac{85}{60} \times 80$
 $= \frac{4 \times 85}{3}$
 $= \frac{340}{3} = 113 \frac{1}{3}$ Rs.
86. (c); Krishna $\rightarrow 3x \times 2t \Rightarrow 6xt$
Nandan $\rightarrow x \times t \Rightarrow xt$
Ratio of their profits = $6 : 1$
 \therefore Required amount = $\frac{4000}{1} \times 7 = 28000$ Rs.
87. (e); Let total population = 100
 \therefore After first year = $100 + 15 = 115$
After second year = $115 - 23 = 92$
After third year = $92 + 4.6 = 96.6$
 $\therefore 100 \rightarrow 32000$
 $96.6 \rightarrow \frac{32000}{100} \times 96.6$
 $= 320 \times 96.6 = 30912$
88. (c); Let students appeared from school A = 100
 \therefore Qualified students from school A = 60
Now, student appeared from school B = 130
And Qualified student from school B = $60 + 36 = 96$
 \therefore Required % = $\frac{96}{130} \times 100 = \frac{960}{13} = 73 \frac{11}{13}$ %
89. (b); Let original expenditure of mess for students = x
 $\therefore (x - 1) \times 40 - 36x = 32$
 $40x - 40 - 36x = 32$
 $4x = 72$
 $x = 18$
 \therefore Required expenditure = $18 \times 36 = 648$ Rs.
90. (c); Let amount invested at 20% per annum = x Rs.
By mixture and allegation method



\therefore Total amount invested = $\frac{12000}{3} \times 5 = 20,000$ Rs.

91. (d); Let required no. of days = x

$$\frac{(x-5)}{10} + \frac{(x-3)}{12} + \frac{x}{15} = 1$$

$$\frac{6x-30+5x-15+4x}{60} = 1$$

$$15x - 45 = 60$$

$$15x = 105$$

$$x = 7 \text{ Days}$$

92. (b); Reqd. Probability = $\frac{2c_1+1c_1}{12c_1} = \frac{3}{12} = \frac{1}{4}$

93. (c); Reqd. probability = $\frac{1}{12c_2} (4c_1 \times 8c_1 + 4c_2) = \frac{38}{12 \times 11} \times 2 = \frac{19}{33}$

94. (d); Reqd. probability = $\frac{(4c_2 \times 5c_1)}{12c_1} = \frac{3}{22}$

95. (d);

	C.P.	S.P.		
Pankaj	70	100	\times_5	350 500
Chandan	100	125	\times_4	400 500
Difference of their profit = $150 - 100 = 50$				
$\therefore 50 \rightarrow 135$				
$500 \rightarrow \frac{135}{50} \times 500 = 1350$ Rs.				

Ans.(c)

Sol. After dividing, we get $x^2 + x - 12 = 0, x = -4, 3$

After dividing we get, $y^2 + 7y + 12 = 0, y = -4, -3$
 $x \geq y$

97. $x \leq y$
Ans.(a)
Sol. $2x^2 - 41x + 20 = 0, x = \frac{1}{2}, 20$
 $-2y^2 - 19y - 35 = 0, x = \frac{-5}{2}, -7$

98. (a)
Sol. $y = -\frac{59}{5}, x = \frac{-57}{5}$

99. (b);
 $x = -\frac{21}{6}, -\frac{10}{6} \quad y = -\frac{2}{2}, \frac{-1}{2}$
 $-\frac{7}{2}, -\frac{5}{3} \quad -1, \frac{-1}{2}$
 $y > x$

100. (c); I. $2x^2 - 4x - \sqrt{13}x + 2\sqrt{13} = 0$
 $2x(x - 2) - \sqrt{13}(x - 2) = 0$
 $(x - 2)(2x - \sqrt{13}) = 0$
 $x = 2, \frac{\sqrt{13}}{2}$
II. $10y^2 - 18y - 5\sqrt{13}y + 9\sqrt{13} = 0$
 $2y(5y - 9) - \sqrt{13}(5y - 9) = 0$
 $(5y - 9)(2y - \sqrt{13}) = 0$
 $y = \frac{9}{5}, \frac{\sqrt{13}}{2}$
 $x \geq y$