IBPS PO Prelims Memory Based 2024 (Quantitative Aptitude)

Directions (66-70): Read the following table carefully and answer the questions given below. The table shows the total number of bikes sold by two (X and Y) different companies in four (K, L, M, and N) different cities and the total number of cars sold by these two companies in these cities. The table also shows the total number of bikes sold by company Y in these cities.

Cities	Bikes sold by (X and Y)	Cars sold by (X and Y)	Bikes sold by Y
K	328	450	210
L	560	980	320
M	440	730	90
N	620	350	195

Q66. If total number of cars sold by Y in city K are two-fifth of the total number of bikes sold by Y in city K, then find the difference between the total number of cars sold by X in city K and bikes sold by X in city M.
(a) 22
(b) 16
(c) 23
(d) 15
(e) 18

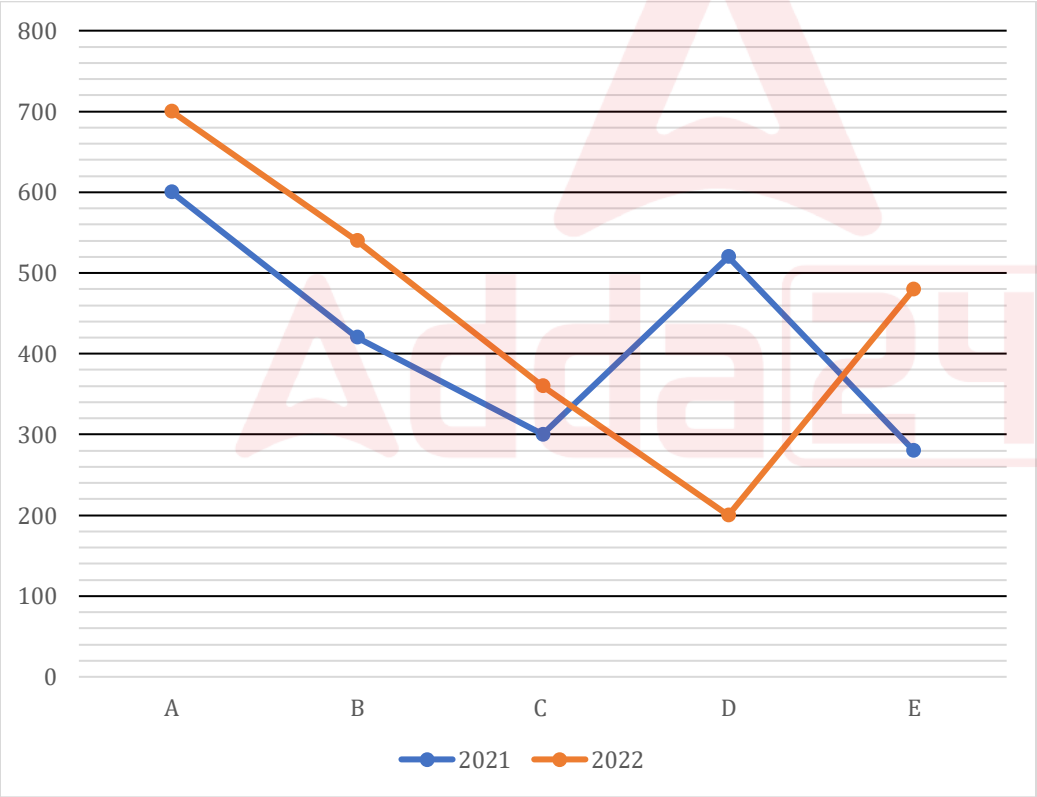
Q67. Total number of cars sold by X in city N is 20% less than the total number of bikes sold by X in city M. Find the ratio of the total number of cars sold by Y in city N to the total number of bikes sold by Y in city K.
(a) 3:1
(b) 2:1
(c) 2:3
(d) 1:4
(e) 1:3

Q68. The ratio of the total number of cars sold by X to Y in city L is 3:4 respectively. Find the total number of cars sold by X in city L is how many more or less than the total number of bikes sold by Y in N.
(a) 225
(b) 210
(c) 195
(d) 145
(e) 125

Q69. The total number of bikes sold by X in city M is what percentage more or less than the total number of cars sold by X and Y together in city N?
(a) 2%
(b) 0%
(c) 5%
(d) 10%
(e) 7.5%

Q70. Total number of cars sold by Y in city M is 200 more than the total number of bikes sold by X in city L. The total number of cars sold by X in city M is what percentage of the total number of cars sold by X and Y together in city K?
(a) 64%
(b) 58%
(c) 42%
(d) 79%
(e) 82%

Directions (71-75): Read the following line graph carefully and answer the questions given below. The line graph shows 1/3rd of the total items sold by five different shops in two different years.



Note: (i). Total number of items sold by each shops in 2023 is 20% more than that in 2021.
(ii). The total number of items sold by each shops in each year, which is given in the line graph, is one-third of the total items sold.

Q71. Total number of items sold by D in 2023 is what percentage less than the total number of items sold by A in 2022 (approx.)?

(a) 23%
(b) 19%
(c) 11%
(d) 15%
(e) 8%

Q72. Find the ratio of the total number of items sold by B in 2022 to the total number of items sold by C in 2023.
(a) 1:2
(b) 2:3
(c) 3:2
(d) 3:4
(e) 4:5

Q73. Find the difference between the total number of items sold by D and E together in 2023 and the total number of items sold by A and B together in 2021.
(a) 180
(b) 194
(c) 150
(d) 158
(e) 100

Q74. Find the sum of the total number of items sold by A, B and C in 2023.
(a) 4235
(b) 4450
(c) 4980
(d) 4752
(e) 4898

Q75. Total number of items sold by B and D together in 2023 is how many more or less than the total number of items sold by A in all three years together.
(a) 2676
(b) 2194
(c) 2150
(d) 2058
(e) 2100

Directions (76 - 80): In each of these questions a number series is given. In each series only one number is wrong. Find out the wrong number.

Q76. 188, 177, 199, 166, 210, 150, 221
(a) 188
(b) 221
(c) 150
(d) 199
(e) 210

Q77. 18225, 6075, 2025, 675, 220, 75, 25
(a) 25
(b) 75
(c) 220
(d) 18225
(e) 6075

Q78. 210, 228, 250, 274, 302, 332, 365
(a) 302
(b) 332
(c) 210
(d) 250
(e) 365

Q79. 304, 300, 316, 332, 364, 428, 556
(a) 300
(b) 316
(c) 304
(d) 332
(e) 428

Q80. 2194, 2175, 2152, 2123, 2092, 2054, 2014
(a) 2014
(b) 2054
(c) 2194
(d) 2092
(e) 2123

Directions (81-85): What approximate value will come in place of question mark (?) in the following questions (You are not expected to calculate the exact value).

Q81. $5.03\%\ of\ 39.89 + 10.09\%\ of\ 450 = ?$
(a) 44
(b) 47
(c) 39
(d) 54
(e) 59

Q82. $\sqrt{840.99} + \frac{14}{19} of\ 361.09 = ? \times 4.88$
(a) 59
(b) 53
(c) 65
(d) 50
(e) 43

Q83. $12.21^3 - 108.02 = 24.90\%\ of\ 399 + ?$
(a) 1090
(b) 1120
(c) 1240
(d) 1520
(e) 1130

Q84. $\frac{32.08\%\ of\ 599}{1.99} \div \frac{1}{4} = ?^2 - 16$
(a) 29
(b) 24
(c) 17
(d) 12
(e) 20

Q85. $\left(\frac{256.03}{15.99} \div \frac{3.98}{1.99}\right) = ? \div 12.01$
(a) 91
(b) 96
(c) 103
(d) 87
(e) 67

Q86. A, B and C together can do a work in 4 days, while B alone can do the same work in 24 days. If efficiency of C is 300% more than that of B, then find the difference between number of days taken by A and C to complete the work alone?
(a) 18
(b) 12
(c) 11
(d) 15
(e) 20

Q87. The ratio of present age of P to age of Q four years ago is 2 : 1. Present age of R is equal to average of present age of P and Q. 16 years ago, age of R was 10 years. Find the sum of present age of P, Q and R (in years)?
(a) 66 years
(b) 78 years
(c) 82 years
(d) 99 years
(e) 102 years

Q88. An amount of Rs. 12200 is partly invested in scheme A at 10% p.a. on compound interest for two years and in scheme B at the same rate on simple interest for four years. If the interest received from both the schemes is equal, then find the amount invested in scheme A?

(a) Rs.4350
(b) Rs.4340
(c) Rs.4200
(d) Rs.8000
(e) Rs.8500

Q89. A, B and C started a business with investment of Rs. 12,000, Rs. 12,000 and Rs. 8,000 respectively. B invested only for 'x' months, while C left the business 'x' month before a year. If A got Rs 1800 out of annual profit of Rs 3200, then find the value of 'x'?
(a) 2
(b) 8
(c) 6
(d) 4
(e) 5

Q90. Train A crosses a 230 meters long platform in 29 seconds and train B crosses a 150 meters long platform in 24 seconds. Train B having length of 450 meters crosses train A in 160 seconds, while running in the same direction. Find how much time will the train A take to cross a 50 meters long bridge (Speed of train B > speed of train A)?
(a) 16 seconds
(b) 22 seconds
(c) 20 seconds
(d) 17 seconds
(e) 25 seconds

Q91. The ratio of speed of a boat in still water to the speed of boat in upstream 4 : 3. The boat covers 560 km in 7 hours in downstream. Find the time taken by boat to cover 480 km distance in upstream?
(a) 8 hours
(b) 9 hours
(c) 7 hours
(d) 5 hours
(e) 10 hours

Q92. A mark an article 60% above its cost price. When he allows 4d% discount on marked price he earns 28% profit. If he allows 6d% discount, then find the profit/ or loss %?
(a) 12%
(b) 15%
(c) 18%
(d) 20%
(e) 24%

Q93. The ratio of milk and water in mixture A is 9: 5. The quantity of milk in mixture B is 20% more that in mixture A and quantity of water in mixture A is 25% more than that in mixture B. If sum of quantity of water of both mixture is 54 liters, then find the total quantity of mixture in A?

(a) 72 liters
(b) 64 liters
(c) 84 liters
(d) 75 liters
(e) 80 liters

Q94. The average weight of 24 boys and 6 girls in a class is 40 kg. If the weight of all the girls excluded the average weight of the class is reduced by 4 kg, then find the average weight of all the six girls?
(a) 52 kg
(b) 56 kg
(c) 58 kg
(d) 55 kg
(e) 51 kg

Q95. The ratio of area of a square and area of a rectangle is 3:2 respectively. The side of square is equal to length of the rectangle. The perimeter of the rectangle is 40 meters, then find the breadth of the rectangle?
(a) 12 m
(b) 8 m
(c) 10 m
(d) 15 m
(e) 17 m

Directions (96 - 100): Read the following data carefully and answer the questions given below. The data shows the three different people (A, B & C) win or lose multiple games.
Total games win by B is 50 and the ratio of game win by A and games lose by B is 3:2 respectively. The ratio of total games loses by A to total games win by A is 4:3. The average of number of games lose by A and win by B is 105. Total games win by C is 20% more than total games loss of B and the ratio of total games win to lose by C is 4 : 5.

Q96. Find the ratio of the total games win by A and the total games lose by C.
(a) 2:1
(b) 1:1
(c) 1:3
(d) 4:3
(e) 5:2

Q97. Total games lose by B is what percentage of the total games win by A?
(a) 66.67%
(b) 32.5%
(c) 8.33%
(d) 62.5%
(e) None of these

Q98. Find the sum of total games lose by B and A.
(a) 210
(b) 220
(c) 250
(d) 320
(e) 240

Q99. If the total games lose by D are 25% more than that of A and the total games win by D are five more than half of the total games win by C, then find the difference between the total games lose and total games win by D.
(a) 147
(b) 149
(c) 142
(d) 139
(e) 129

Q100. Find the average of total games win by A & B and total games lose by C.
(a) 98.25
(b) 91.67
(c) 83.33
(d) 96.67
(e) 129

Solutions

Sol. (66-70):
For cities K
Bikes sold by X and Y = 328
Bikes sold by Y = 210
Bikes sold by X = 328-210=118
Similarly,

Cities	Bikes sold by X	Bikes sold by Y	Cars sold by (X and Y)
K	118	210	450
L	240	320	980
M	350	90	730
N	425	195	350

S66. Ans (b)
Sol. Total number of cars sold by Y in city K = $\frac{2}{5} \times 210 = 84$
Total number of cars sold by X in city K = 450 – 84 = 366
Required difference = 366 - 350 = 16

S67. Ans (e)

Sol. Total number of cars sold by X in city N = $\frac{80}{100} \times 350 = 280$

Total number of cars sold by Y in city N = 350 – 280 = 70

Required ratio = 70 : 210 = 1:3

S68. Ans (a)

Sol. Total number of cars sold by X in city L = $980 \times \frac{3}{7} = 420$

Required difference = 420 – 195 = 225

S69. Ans (b)

Sol. Required percentage = $\frac{350-350}{350} \times 100 = 0\%$

S70. Ans (a)

Sol. Total number of cars sold by Y in city M = 200 + 240 = 440

Total number of cars sold by X in city M = 730 – 440 = 290

Required percentage = $\frac{290}{450} \times 100 = 64.44\% \approx 64\%$

Sol. (71-75):

For shop A

1/3 of total items sold by A in 2021= 600

Total number of items sold in 2021 = $600 \times 3 = 1800$

1/3 of total items sold by A in 2022= 700

Total number of items sold in 2022 = $700 \times 3 = 2100$

Total number of items sold in 2023 = $\frac{120}{100} \times 1800 = 2160$

Similarly,

Shops	**In 2021**	**In 2022**	**In 2023**
A	1800	2100	2160
B	1260	1620	1512
C	900	1080	1080
D	1560	600	1872
E	840	1440	1008

S71. Ans (c)

Sol. Required percentage = $\frac{2100-1872}{2100} \times 100 = 10.8 \approx 11\%$ (approx.)

S72. Ans (c)

Sol. Required ratio = 1620 : 1080 = 3:2

S73. Ans (a)

Sol. Required difference = $(1800 + 1260) - (1872 + 1008)$

$= 3060 - 2880 = 180$

S74. Ans (d)
Sol. Required sum = 2160 + 1512 + 1080 = 4752

S75. Ans (a)
Sol. Total number of items sold by A in all three years together = 1800 + 2100 + 2160 = 6060
Required difference = 6060 – (1512+1872) = 2676

S76. Ans (c)
Sol. The pattern of the series:

188, 177, 199, 166, 210, 155, 221

-11 +22 -33 +44 -55 +66

S77. Ans (c)
Sol. The pattern of the series:

18225, 6075, 2025, 675, **225**, 75, 25

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S78. Ans (e)
Sol. The pattern of the series:

210, 228, 250, 274, 302, 332, **366**

18 22 24 28 30 34

4 2 4 2 4

S79. Ans (a)
Sol. The pattern of the series:

304, **308**, 316, 332, 364, 428, 556

4 8 16 32 64 128

S80. Ans (b)
Sol. The pattern of the series:

2194, 2175, 2152, 2123, 2092, **2055**, 2014

19 23 29 31 37 41

S81. Ans (b)
Sol. $5\%\ of\ 40 + 10\%\ of\ 450 = ?$
$2 + 45 = ?$
$47 = ?$

S82. Ans (a)

Sol. $\sqrt{841} + \frac{14}{19} of\ 361 = ? \times 5$

$295 = ? \times 5$

$59 = ?$

S83. Ans (d)

Sol. $12^3 - 108 = 25\%\ of\ 400 + ?$

$1620 = 100 + ?$

$1520 = ?$

S84. Ans (e)

Sol. $\frac{32\%\ of\ 600}{2} \div \frac{1}{4} = ?^2 - 16$

$96 \times 4 = ?^2 - 16$

$400 = ?^2$

$20 = ?$

S85. Ans (b)

Sol. $\left(\frac{256}{16} \div \frac{4}{2}\right) = ? \div 12$

$(16 \div 2) = ? \div 12$

$96 = ?$

S86. Ans (a)

Sol. Let the total work (LCM of 4 and 24) = 24 units

The efficiency of A, B & C together = $\frac{24}{4} = 6$ units/day

The efficiency of B = $\frac{24}{24} = 1$ units/day

The efficiency of C = $1 \times 4 = 4$ units/day

The efficiency of A = 6 -1- 4 = 1 units/day

Time taken by A to complete the work = $\frac{24}{1} = 24$ days

Time taken by C to complete the work = $\frac{24}{4} = 6$ days

Required difference = 24 – 6 = 18 days

S87. Ans (b)

Sol. Let the present age of P and Q be 2x and x+4 years respectively.

The present age of R = $\frac{2x+x+4}{2} = \frac{3x+4}{2}$

ATQ,

$\frac{3x+4}{2} = 16 + 10$

$3x + 4 = 52$

$x = 16$

Present age of P = 32 years

Present age of Q = 20 years

Required sum = 32 + 20 + 26 = 78 years

S88. Ans. (d)

Sol. Let the amount invested in scheme A = Rs. X

So, amount invest in scheme B = 12200 – X Rs.

Equivalent compound interest at 10% rate= 10 +10 + $\frac{10\times10}{100} = 21\%$

$X \times \frac{21}{100} = \frac{(12200-X)\times4\times10}{100}$

61X = 12200×4×10

X = Rs.8000

S89. Ans.(d)

Sol. Ratio of profit =

A	:	B	:	C
12×12	:	12×x	:	8×(12 – x)
36	:	3x	:	2(12 – x)

ATQ,

$\frac{36}{60+x} = \frac{1800}{3200}$

60 + x = 64

x = 4

S90. Ans. (c)

Sol. Let length of train A = l meters.

And let speed of train A = S m/s.

ATQ,

Speed of train B = $\frac{450+150}{24}$ = 25 m/s

Speed of train A = $\frac{l+230}{29}$ ...(i)

Now, $25 - S = \frac{450+l}{160}$

$S = 25 - \frac{450+l}{160}$ ...(ii)

On solving (i) & (ii):

$\frac{l+450}{160} = 25 - \frac{l+230}{29}$

l=350 meters.

So, speed of train A = $\frac{350+230}{29}$ = 20 m/s.

Required time = $\frac{350+50}{20}$ = 20 seconds

S91. Ans. (e)

Sol. Let the speed of boat in still water and speed of stream be x and y respectively.

ATQ,

$x = \frac{4}{3}(x-y)$

$\frac{x}{y} = \frac{4}{1} = \frac{4m}{1m}$

$\frac{560}{(1m+4m)} = 7$

$16 = m$

Required answer = $\frac{480}{(4-1)\times 16} = 10\ hours$

S92. Ans.(a)

Sol. Let cost price be Rs.100x

Marked price = Rs.160x

Selling price = Rs.128x

Discount % = $\frac{160x-128x}{160x} \times 100$

$\frac{32x}{160x} \times 100 = 20\%$

ATQ.

4d=20

d=5

New selling price = $160x \times \frac{100-(6\times 5)}{100} = 112x$

Profit % = $\frac{112x-100x}{100x} \times 100 = 12\%$

S93. Ans. (c)

Sol. Let quantity of milk and water in the mixture A be 9l and 5l respectively.

Quantity of milk in mixture B = $9l \times \frac{120}{100} = \frac{54}{5}\ l$

And quantity of water in mixture B = $5l \times \frac{4}{5} = 4l$

ATQ

5l+4l=54

l=6

So, required quantity =(9+5)l =14l =84 liters

S94. Ans (b)

Sol. Total weight of the class = $(24 + 6) \times 40 = 1200\ kg$

Total weight of 24 boys in the class = $24 \times (40 - 4) = 864\ kg$

Required average = $\frac{1200-864}{6} = 56\ kg$

S95. Ans (b)

Sol. Let length and breadth of the rectangle be 'l' m and 'b' m respectively.

So, side of the square = 'l' m

ATQ.

$\frac{l \times l}{l \times b} = \frac{3}{2}$

$\frac{l}{b} = \frac{3}{2} = \frac{3x}{2x}$

2(l+b)=40

2(3x+2x)=40

x=4

Breadth of the rectangle = 2x = 8 meters

Sol. (96-100):

Given, total games win by B = 50

Let games win by A and total games lose by B is 3x and 2x respectively

Total games lose by A = $3x \times \frac{4}{3} = 4x$

ATQ,

$\frac{4x + 50}{2} = 105$

$4x + 50 = 210$

$4x = 160$

$x = 40$

Total games win by C = $80 \times \frac{6}{5} = 96$

So, total games lose by C = $96 \times \frac{5}{4} = 120$

	Wins	**Lose**
A	120	160
B	50	80
C	96	120

S96. Ans (b)

Sol. Required ratio = 120 : 120 = 1:1

S97. Ans (a)

Sol. Required percentage = $\frac{80}{120} \times 100 = 66.67\%$

S98. Ans (e)

Sol. Required sum = 160 + 80 = 240

S99. Ans (a)

Sol. Total losses of D = $\frac{5}{4} \times 160 = 200$

Total wins of D = $\frac{96}{2} + 5 = 53$

Required difference = 200 – 53 = 147

S100. Ans (d)

Sol. Required average = $\frac{120+50+120}{3} = 96.67$