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Date Interpretation Line Chart Questions for SBI PO Pre, IBPS PO Pre, SBI Clerk Mains and IBPS Clerk Mains Exams

DI Line Chart Quiz 26

Direction : Study the following line graph carefully to answer the questions that follow.

The following line graph gives the information about the percentage increase in turnover of four companies (Patanjali, Reliance, Airtel, and Accenture) during the year 2012 to 2017 with respect to previous year.
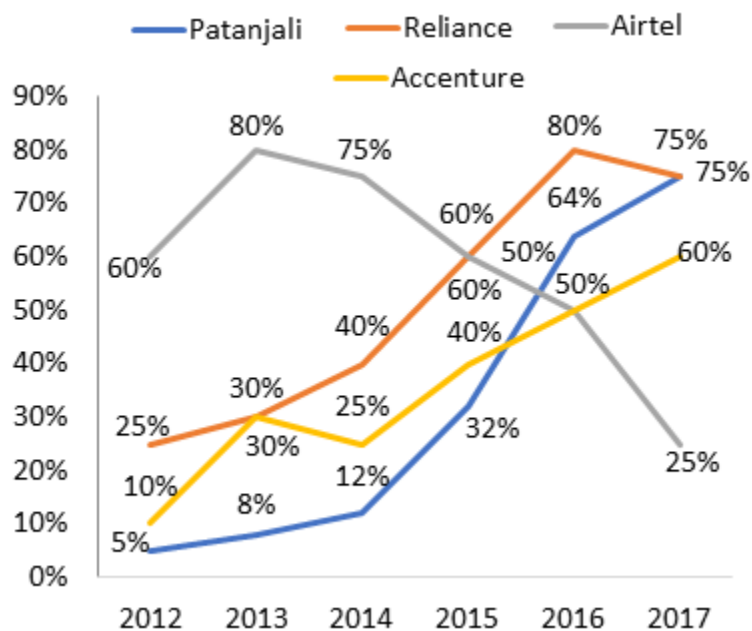
1. If at the end of year 2011, the turnover of Patanjali was 25% less than the turnover of Airtel then at the end of 2014, the turnover of Patanjali was how much percent less than the turnover of Airtel? (approximately)

A. 40%   B. 60%   C. 51%   D. 81%   E. 85%

2. If at the end of 2015, the turnover of Patanjali was 75% of the turnover of Airtel, turnover of Airtel was 60% of the turnover of Accenture and the turnover of Accenture was 80% of the turnover of Reliance. If it is given that the turnover of Reliance at the end of 2015 was $ 1.75 billion. Then what was the sum of the total turnover of all the companies together at the end of 2017? (round off two decimal)

A. $ 12.25 billion   B. $ 14.21 billion   C. $ 7.48 billion   D. $ 9.64 billion   E. $ 6.14 billion

3. If the total turnover of Patanjali at the end of 2012 was $ 1 billion then find the total turnover of Patanjali at the end of 2017? (round off two decimal)

A. $ 6.21 billion   B. $ 7.21 billion   C. $ 4.58 billion   D. $ 3.12 billion   E. $ 2.24 billion

4. At the end of 2012, the respective ratio of the turnover of Patanjali, Reliance, Airtel, and Accenture was 2 : 7 : 4 : 5 then what was the respective ratio of the turnover of all the companies at the end of 2011?

A. $\dfrac{40}{21} : \dfrac{28}{5} : \dfrac{7}{2} : \dfrac{50}{11}$ B. $\dfrac{40}{21} : \dfrac{27}{5} : \dfrac{5}{2} : \dfrac{50}{11}$ C. $\dfrac{40}{21} : \dfrac{28}{5} : \dfrac{5}{2} : \dfrac{40}{11}$ D. $\dfrac{20}{21} : \dfrac{14}{5} : \dfrac{5}{4} : \dfrac{25}{11}$

E. None of these

5. Which of the following shows the approximate percentage increase in the turnover of Accenture during the six years?

A. 450%   B. 500%   C. 600%   D. 550%   E. 300%

6. For which of the following company, the approximate percentage increase in the turnover during the six years was highest?

A. Airtel   B. Reliance   C. Accenture   D. Patanjali   E. None of these

Correct Answers:

1	2	3	4	5	6
D	A	C	D	B	A

Explanations:

1. At the end of 2011, the respective ratio of the turnover of Patanjali and Airtel = 3 : 4 (the turnover of Patanjali was 25% less than the turnover of Airtel)

Let us assume that the turnover of Patanjali at the end of 2011 = 3x and the turnover of Airtel at the end of 2011 = 4x

Then, the turnover of Patanjali at the end of 2014 = $3x \times \dfrac{105}{100} \times \dfrac{108}{100} \times \dfrac{112}{100}$ = approximately 3.81x

The turnover of Airtel at the end of 2014 = $4x \times \dfrac{160}{100} \times \dfrac{180}{100} \times \dfrac{175}{100} = 20.16x$

The reqd. % = $\dfrac{(20.16x - 3.81x) \times 100}{20.16x}$ = approximately 81%

Hence, option D is correct.

2. At the end of 2015, Let the turnover of Airtel = 4x then the turnover of Patanjali = 75% of 4x = 3x. turnover of Airtel was 60% of the turnover of Accenture, 60% of accenture's turnover = 4x

Accenture's turnover = $4x \times \dfrac{100}{60} = \dfrac{20x}{3}$ similarly,

Reliance's turnover = $\dfrac{(20x/3) \times 100}{80} = \dfrac{25x}{3}$

According to the question,

$\dfrac{25x}{3} = 1.75$

X = 0.21
At the end of 2017,

the turnover of airtel = $4x \times \dfrac{150}{100} \times \dfrac{125}{100} = 7.5x$

the turnover of Patanjali = $3x \times \dfrac{164}{100} \times \dfrac{175}{100} = 8.61x$

the turnover of Accenture = $\dfrac{20x}{3} \times \dfrac{150}{100} \times \dfrac{160}{100} = 16x$

the turnover of Reliance = $\dfrac{25x}{3} \times \dfrac{180}{100} \times \dfrac{175}{100} = 26.25x$

Required sum = 7.5x + 8.61x + 16x + 26.25x = 58.36x = 58.36 × 0.21 = 12.2556 billion
Hence, option A is correct.

3. The total turnover of Patanjali at the end of 2017

$$= 1 \times \frac{108}{100} \times \frac{112}{100} \times \frac{132}{100} \times \frac{164}{100} \times \frac{175}{100} = \$ \ 4.58 \text{ billion approximately}$$

Hence, option C is correct.

4. Let at the end of 2011, the respective ratio of the turnover of Patanjali, Reliance, Airtel, and Accenture = A : B : C : D

Then, 105% of A = 2x

$$A = \frac{40x}{21}$$

For Reliance, 125% of B = 7x

$$B = \frac{28x}{5}$$

For Airtel,

160% of C = 4x

$$C = \frac{5x}{2}$$

For Accenture,

110% of D = 5x

$$D = \frac{50x}{11}$$

The reqd. ratio $= \dfrac{40x}{21} : \dfrac{28x}{5} : \dfrac{5x}{2} : \dfrac{50x}{11}$

$$= \frac{40}{21} : \frac{28}{5} : \frac{5}{2} : \frac{50}{11} = \frac{20}{21} : \frac{14}{5} : \frac{5}{4} : \frac{25}{11}$$

Hence, option D is correct.

5. Let the turnover of Accenture at the end of 2011 = 1 then the turnover of Accenture at the end of 2017

$$= 1 \times \frac{110}{100} \times \frac{130}{100} \times \frac{125}{100} \times \frac{140}{100} \times \frac{150}{100} \times \frac{160}{100} = 6.006$$

Reqd. % = $\frac{(6 - 1) \times 100}{1}$ = approximately 500%

Hence, option B is correct.

6. Let the turnover of Accenture at the end of 2011 = 1 then the turnover of Accenture at the end of 2017

$$= 1 \times \frac{110}{100} \times \frac{130}{100} \times \frac{125}{100} \times \frac{140}{100} \times \frac{150}{100} \times \frac{160}{100} = 6.006$$

Reqd. % = $\frac{(6 - 1) \times 100}{1}$ = approximately 500%

Similarly, let the turnover of Patanjali at the end of 2011 = 1 then the turnover of Patanjali at the end of 2017

$$= 1 \times \frac{105}{100} \times \frac{108}{100} \times \frac{112}{100} \times \frac{132}{100} \times \frac{164}{100} \times \frac{175}{100} = 4.8 \text{ approximately}$$

Reqd. % = $\frac{(4.8 - 1) \times 100}{1}$ = approximately 380%

Let the turnover of Airtel at the end of 2011 = 1 then the turnover of Airtel at the end of 2017

$$= 1 \times \frac{160}{100} \times \frac{180}{100} \times \frac{175}{100} \times \frac{160}{100} \times \frac{150}{100} \times \frac{125}{100} = 15.12$$

Reqd. % = $\frac{(15.12 - 1) \times 100}{1}$ = 1412%

Let the turnover of Reliance at the end of 2011 = 1 then the turnover of Reliance at the end of 2017

$$= 1 \times \frac{125}{100} \times \frac{130}{100} \times \frac{140}{100} \times \frac{160}{100} \times \frac{180}{100} \times \frac{175}{100} = 11.466$$

Reqd. % = $\frac{(11.466 - 1) \times 100}{1}$ = 1046.6%

Hence, option A is correct.