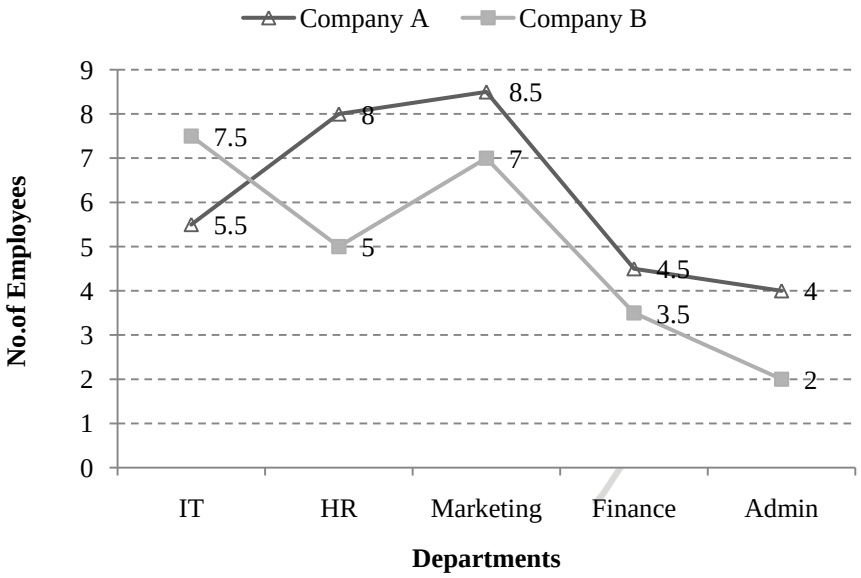
6. Cartesian (Line) Graphs

The line graph is a pictorial representation of data and helps determine trends and rates of change. The slope of the graph helps in computing the magnitude of change between two consecutive points. This graph is similar to the bar graph except for the fact that here data is in nature of the flow mode, and not discrete. The line graph indicates changes in plotted variables with respect to the two indices calibrated on the X and the Y axes, respectively. The slope of the line graph indicates absolute change, not percentage change.

E1: Number of employees working in various departments of two different companies (Number in 100s)



1. The number of employees working in the Marketing department, of company B are what per cent of the total number of employees working in the company?

   1) 30 2) 28 3) 23 4) 32 5) none of these

   Sol. 2: Required percentage = $\frac{7}{25} \times 100 = 28\%$

2. What is the ratio of the total number of employees working in the Admin department of both the companies together and the total number of employees working in the Finance department of both the companies together?

   1) 2 : 32) 4 : 33) 3 : 24) 3 : 45) None of these

   Sol. 4: Required ratio = $\frac{6}{8}$ = 3:4

3. The number of employee working in the HR department of Company A is approximately what per cent of the number of employees working in the Finance department of Company B?

   1) 44 2) 207 3) 53 4) 229 5) 198

   Sol. 4: Required percentage= $\frac{8}{3.5}$ × 100 = 229%

4. If the number of employees working in the IT department of Company B is increased by 20%, what would be the difference between the number of employees working in the IT department C company B and the Admin department of Company A?

   1) 500 2) 350 3) 620 4) 615 5) None of these

   Sol. 1: Increased number of people working in Company B = (7.5 + 7.5 x $\frac{20}{100}$) x 100= 9x 100=900 Required difference = 900-400= 500

5. What is the average number of employees working in all the departments together in Company A?

   1) 600 2) 585 3) 620 4) 615 5) None of these

   Sol. 5: Average number of people will be 610

E 2: Percent profit earned by a company over the years

6. What is the average per cent profit earned by the company over the years?

   1) 55 2) 51 3) 62 4) 59 5) None of these

   Sol. 6: Required average = $\frac{(25+50+70+45+65)}{5}$ = $\frac{255}{5}$ = 51

7. If the expenditure of the company in the year 2006 was ₹ 75,000 what was the ratio of income to expenditure of the company in that year?

   1) 3 : 2 2) 5 : 4 3) 4 : 3 4) Cannot be determined 5) None of these

   Sol. 7: Income = Expenditure x($\frac{100+\%profit}{100}$)→$\frac{income}{Expenditure}$ = $\frac{100+50}{100}$ = $\frac{150}{100}$ = 3: 2 We may not use the given value of expenditure to solve this problem.

8. The per cent profit earned by the company in the year 2009 was what per cent of the per cent profit earned by the company in the year 2005?

   1) 220 2) 240 3) 260 4) 255 5) None of these

   Sol. Required percentage = $\frac{65}{25} \times 100 = 220$

   Ans: 1

9. If the income of the company in the year 2005 and the year 2007 was ₹ 6,80,000 each, then what was the difference in expenditures of the company in the year 2005 and 2007?

   1) ₹ 1,24,000 2) ₹ 1,40,000 3) ₹ 1,50,00 4) Cannot be determined

   5) None of these

   Sol. 9: By the rule given in solution to Q. No. 107, we can find expenditure of company in 2005 as ₹ 680000 x $\frac{100}{125}$ and in 2007 as ₹ 680000 x $\frac{100}{170}$

   Required difference = 680000 x 100 ($\frac{1}{125} - \frac{1}{170}$) = ₹ 144,000

talent sprint

E 3: The following graph shows the percentage of Obese men, women and children over the years

Total Number of Men Women and Children in the state over the years

Years	Men	Women	Children
2004	54,000	38,000	15,000
2005	75,000	64,000	21,000
2006	63,000	60,000	12,000
2007	66,000	54,000	16,000
2008	70,000	68,000	20,000
2009	78,000	75,000	45,000

11. What was the approximate average of obese men, obese women and obese children in 2007?

1) 12,683 2) 12,795 3) 12,867 4) 12,843 5) 12,787

Sol. 11: Total number of obese men in 2007 =66000 x 35% = 23,100

Total number of obese women = 54000 x $\frac{25}{100}$ = 13,500

Total number of obese children in 2007 = 16000 x 12.5% = 2000

Required average = (23100 + 13500+2000)÷ 3 = 38600÷3≈12867

12. The number of obese men in the year 2009 was what per cent of the men not suffering from obesity in the same year?

1) 55 2) 60 3) 50.5 4) 65.5 5) None of these

Sol. 12: Required percentage = $\frac{78000\times37.5\%}{78000\times62.5\%}$ x 100 = 60%

13. What was the ratio of the obese women in the year 2006 to the obese men in the year 2008?

1) 6 : 72) 21:653) 15:734) 48:775) None of these

Sol. 13: Required ratio = $\frac{60000\times20\%}{70000\times27.5\%}$ = 48:77

14. What is the difference between the number of obese women and obese children together in the year 2006 and the number of obese men in the same year?

1) 5,475 2) 5,745 3) 4,530 4) 31,650 5) None of these

Sol. 14: No. Of obese women in 2006 = 20% of 60000 = 12000

Number of obese children in 2006= 25% of 12000 = 3000

Number of obese men in 2006 = 32.5% of 63000=20475

Required difference = 20475 – (12000+300)= (20475 -15000) = 5475

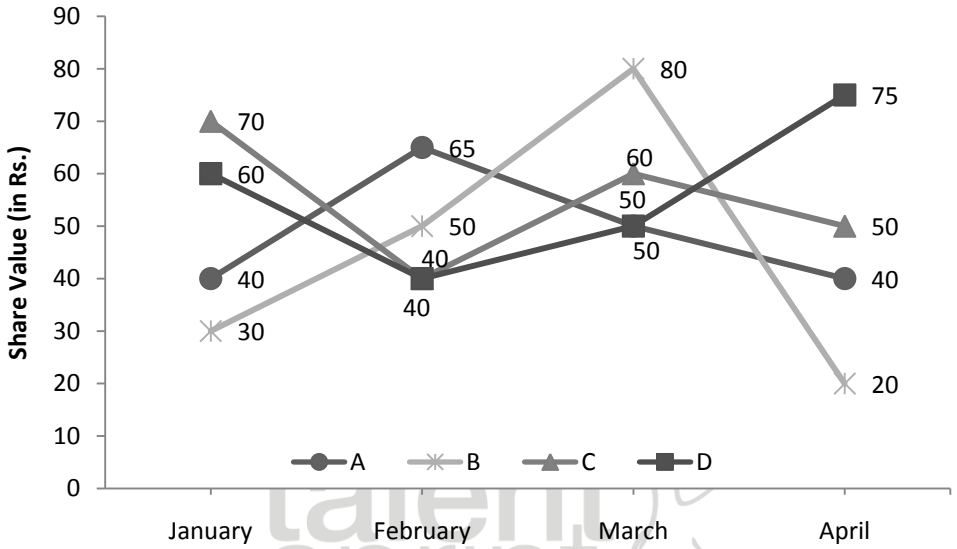
15. What was the total number of children not suffering from obesity in the year 2004 and

2005 together?

1) 4,350 2) 31,5 0 3) 4,530 4) 31,650 5) None of these

Sol. 15: Number of children not suffering from obesity in 2005 = 90% of 21000 = 18900 total of these two equals to 31650.

E 4: The following graph represents value of shares of 4 different companies A, B, C and D over 4 months.



16. The share showing the maximum percentage change in value in April over its value in January is of company

1) A 2) B 3) C 4) D (5) None of these

Sol. The percentage change in value of A for the given period is 0%

For B is [(20 - 30)/30] x 100 = -33.3%

For C is [(50 - 70)/70] x 100 = -28.5%

For D is [(75 - 60)/60] x 100 = 25% Hence maximum change for B. Ans.2)

17. When is the average price of the four companies shares the lowest?

1) January 2) February 3) March 4) April 5) None of these

Sol. Average price in January = (30 + 40 + 60 + 70)/4 = ₹ 50

Average price in February = (40 + 40 + 50 + 65)/4 = ₹ 48.75

Average price in March = (50 + 50 + 60 + 80)/4 = ₹ 60.

Average price in April = (20 + 40 + 50 + 75)/4 = ₹ 46.2.

So, the average share price is minimum in April. Ans.4)

18. The share showing the highest percentage change in value over any two consecutive months is

1) A 2) B 3) C 4) D 5) None of these

Sol. January to February (All values in %)

A →62.5, B → 66.66, C → - 42.85, D → - 33.33

February to March A → -23, B → 60, C → 50, D → 20,

March to April A → -20, B → -75, C → -16.66, D → 50. Hence B. Ans.2)

19. Surjeet bought 80 shares of each company in January, 100 of each in February and 50 of each in March. If he sold all his bought shares in April, what is his profit / loss?

1) loss of ₹ 4950 2) loss of RS.4750 3) profit of ₹ 4255 4) loss of ₹ 5620

5) None of these

Sol. Investment = 80 (30 + 40 + 60 + 70) + 100 (40 + 40 + 50 + 65) + 50(50 + 50 + 60 + 80) = 16000 + 19500 + 12000 = ₹ 47500.

After selling the shares in April, the revenue is 230 x (20 + 40 + 50 + 75) = 230 x 185 = 42550.. ˙. Loss = 47500 - 42550 = ₹ 4950. Ans.1)

20. 100 shares each of A, Band C are bought in January. Then A is sold in February, B in March and C in April. There is hence

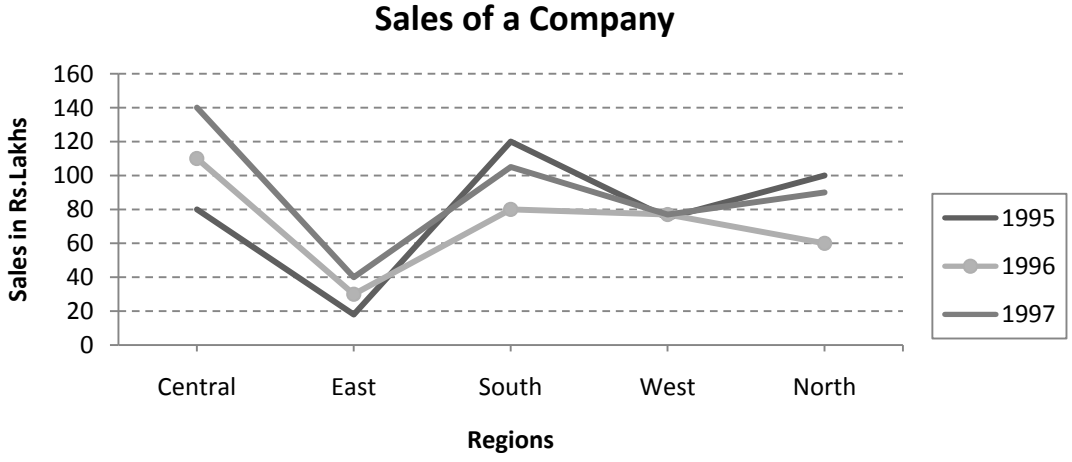
1) a net gain 2) a net loss 3) neither gain nor loss 4) Can't be determined

5) None of these

Sol. We have (+ 2500) + (+ 5000) + (- 2000) = positive, hence gain. Ans.1)

Stock Graphs

E 5: The following graph shows the sales figure (in ₹ lakhs) of a company in various parts of the country over the given years.



21.In 1995, what is the total revenue of the company from all the regions?

1) ₹ 390 lakhs 2) ₹ 450lakhs 3) ₹ 310 lakhs 4) ₹ 670 lakhs 5) None of these

Sol. The total sales in 1995 = 85 + 15 + 120 + 70 + 100 = ₹ 390 lakhs. Ans.1)

22.The average sales of the company per region for the given years is

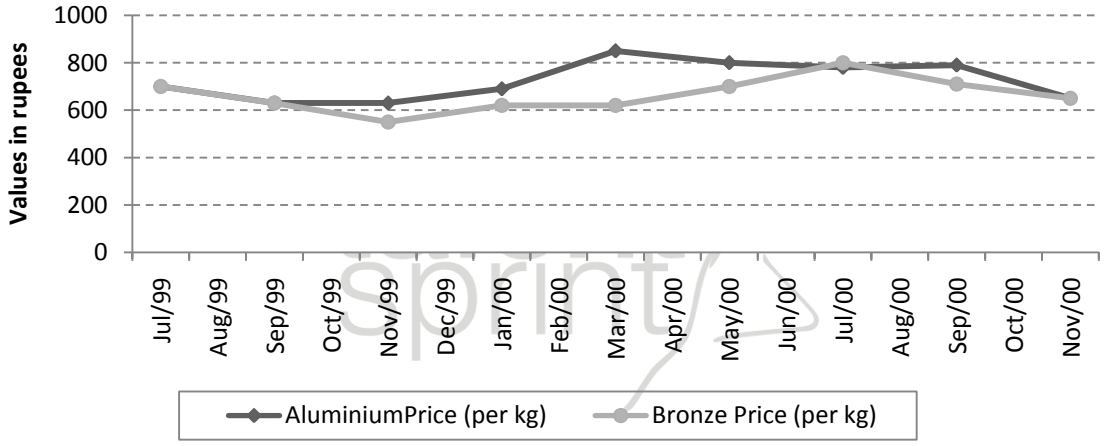
1) ₹ 79.4lakhs 2) ₹ 60.5lakhs 3) ₹ 89.5Iakhs 4) ₹ 96lakhs 5) None of these

Sol. Sales in1995 = 390 lakhs, sales in 1996 = 110 + 25 + 80 + 75 + 60 = 350 lakhs and Sales in 1997 = 140 + 40 + 110 + 70 + 90 = 450 lakhs

Average sales per year = $\frac{390+350+450}{3} = \frac{1190}{3}$ = 397 lakhs (approx.)

Average sales per region = 397/5 = 79.4 lakhs. Ans.1)

E 6: The following is the information of the price of aluminium per kg and that of bronze per kg from July 1999 to November 2000.



23.The largest percentage rise in aluminum prices between any two months was in

1) Sep. - Nov. 1999 2) Jan. - Mar. 20003) May – Jul 2000

4) Sep – Nov. 2000 5) None of these

Sol. One can observe from the graph that the largest jump occurred between jan – march 2000 as the line graph has the maximum change in slope in this period. Ans.2)

24.What would be the profit/loss made if 12 kg of aluminum bought in sep. 99 is sold a year later?

1) Profit, ₹ 1920 2) Profit, ₹ 12003) Profit, ₹ 100 4) Loss, ₹ 1920

5) None of these

Sol. Cost price in Sep-99 = 12 × 620 = ₹ 7440.

Selling price in Sep- 2000 = 12 × 780 = ₹ 9360

∴ Profit made = ₹ 9360 - ₹ 7440 = ₹ 1920. Ans1)

25.The largest percentage drop in the price of bronze between any two months was in

1) Jul - Sep. 19992) Mar – May 20003) May – Jul 20004) Sep - Nov 2000

5) None of these

Sol. From the graph clearly the largest drop occurred between july and September 1999 Ans.1)

26.What would be the price of 6 kg of aluminum and 4 kg of

1) ₹ 7580 2) ₹ 51603) ₹ 2480 4) ₹ 68805) None of these

Sol. Price of 6 kg of aluminium and 4 kg of bronze = (6 × 850) + (4 × 620) = ₹ 7580. Ans.1)

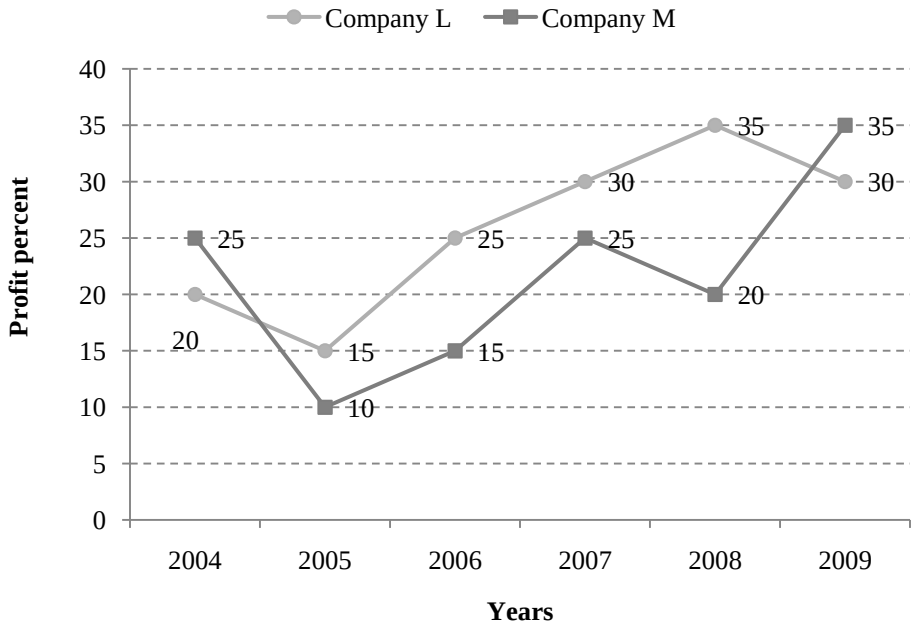
27.How many times an upward trend has been shown by the price of bronze in the given period?

1) 2 2) 3 3) 6 4) 5 5) None of these

Sol. From the graph, we find it is three times. Ans.2)

Practice Exercise:

The following graph shows the profit percent of Company L and Company M over the years



1. If the profit earned by Company L in the year 2005 was ₹ 1.84 lakh, what was the profit earned by the company in the year 2006?
   1) ₹ 2.12 lakh 2) ₹ 2.3 lakh 3) ₹ 2.04 lakh 4) Cannot be determined
   5) None of these

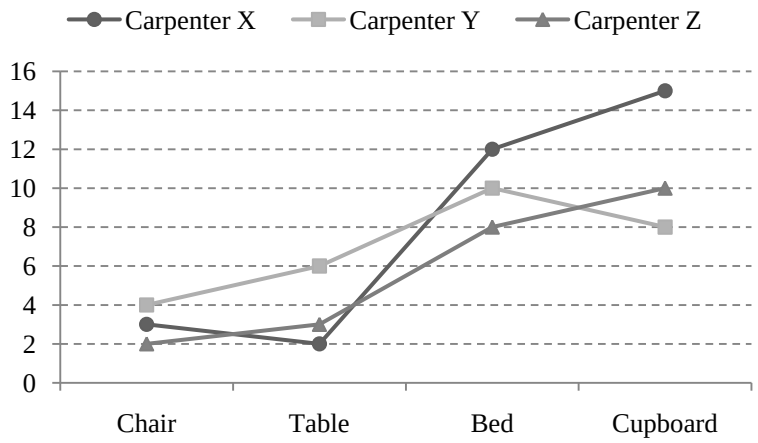
2. If the profit earned by Company M in the year 2008 was ₹ 3.63 lakh, what was the amount of profit earned by it in the year 2006?
   1) ₹ 2.15 lakh 2) ₹ 1.98 lakh 3) ₹ 2.42 lakh 4) Cannot be determined
   5) None of these

3. What is the average percent in the profit of Company L over all the years together?
   1) $15\frac{1}{3}$ 2) $25\frac{1}{3}$ 3) $18\frac{5}{6}$ 4) $21\frac{5}{6}$ 5) None of these

4. Which of the following statements is TRUE with respect to the above graph?
   1) Company M made the highest profit in the year 2009.
   2) Company L made the least profit in the year 2005.
   3) The respective ratio of the profit earned by company L to that by company M in the year 2006 was 6:5.
   4) Company L made the highest profit in the year 2008
   5) All are true

5. What is the percentage increase in profit of Company M in the year 2009 from the previous year?
   1) 25 2) 15 3) 50 4) 75 5) None of these

Number of days taken by three carpenters to finish making one piece each of four different items of furniture



6. If Carpenter X and Carpenter Y were to make a chair together how many days would they take?

   1) 1 day 2) 4 days 3) 3 days 4) 2 days 5) None of these

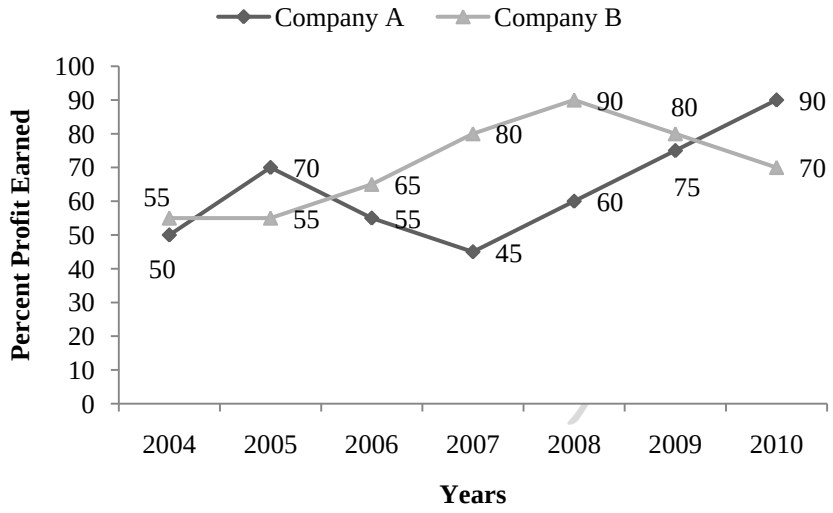
7. If Carpenter X, Y and Z were to make a table together how many days would they take?

   1) 4 days 2) 3 days 3) 1 day 4) 2 days 5) None of these

8. What is the total number of days that Carpenter, Z will take to make one piece each of all the four items together?

   1) 32 days 2) 24 days 3) 1 $\frac{1}{59}$ days 4) 1 $\frac{1}{32}$ days₹ 5) None of these

Percent profit earned by two companies producing electronic goods over the years



9. If the profit earned in 2006 by Company B was ₹ 8, 12,500.what was the total income of the company in that year?

   1) ₹ 12,50,000 2) ₹ 20,62,500 3) ₹ 16,50,000 4) ₹ 18,25,000 5) None of these

10. If the amount invested by the two companies in 2005 was equal, what was the ratio of the total income of the Company A to the of B in 2005?

    1) 31 : 33 2) 33: 31 3) 34 : 31 4) 14 : 11 5) None of these

11. If the total amount invested by the two companies in 2009 was ₹ 27 lakh, while the amount invested by Company B was 50% of the amount invested by Company A, what was the total profit earned by the two companies together?

    1) ₹ 21.15 lakh 2) ₹ 20.70 lakh 3) ₹ 18.70 lakh 4) ₹ 20.15lakh 5) None of these

12. If the income of Company A in 2007 and that in 2008 were equal and the amount invested in 2007 was ₹ 12 lakh, what was the amount invested in 2008?
1) ₹ 10,87,500 2) ₹ 10,85,700 3) ₹ 12,45,000 4) ₹ 12,85,000 5) None of these

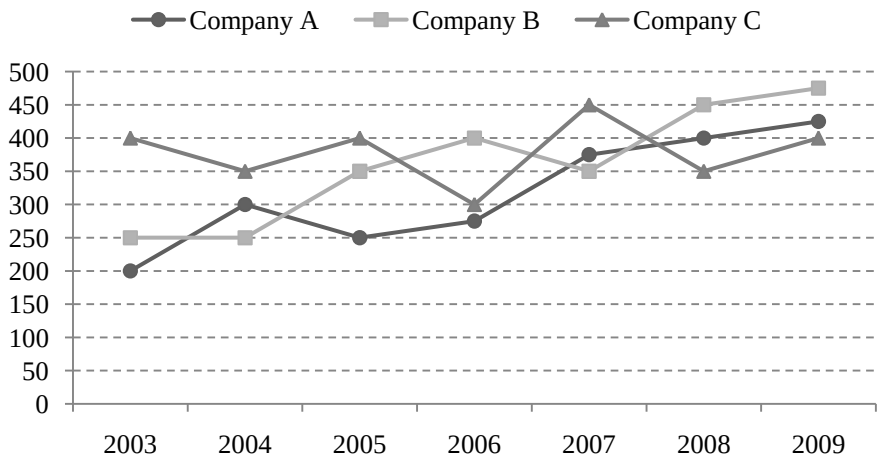
13. If the amount of profit earned by Company A in 2006 was ₹ 10.15 lakh, what was the total investment?
1) ₹ 13.8 lakh 2) ₹ 14.9 lakh 3) ₹ 15.4 lakh 4) ₹ 14.2 lakh 5) None of these

14. If the amount invested by Company B in 2004 is ₹ 12 lakh and the income of 2004 is equal to the investment in 2005, what is the amount of profit earned in 2005 by Company B?
1) ₹ 6.6 lakh 2) ₹ 18.6 lakh 3) ₹ 10.23 lakh 4) ₹ 9.6 lakh 5) None of these

15. If the investment of Company A in 2007 and 2008 were equal, what is the difference between the profits earned in the two years if the income in 2008 was ₹ 24 lakh?
1) ₹ 2.25 lakh 2) ₹ 3.6 lakh 3) ₹ 1.8 lakh 4) ₹ 2.6 lakh 5) None of these

16. If each of the companies A and B invested ₹ 25 lakh in 2010, what was the average profit earned by the two companies?
1) ₹ 18 lakh 2) ₹ 22.5 lakh 3) ₹ 17.5 lakh 4) ₹ 20 lakh 5) None of these

Profit earned by three companies over the years



17. What was the average profit earned by all the three companies in the year 2008?
1) ₹ 300 crores 2) ₹ 400 crores 3) ₹ 350 crores 4) ₹ 520 crores 5) None of these

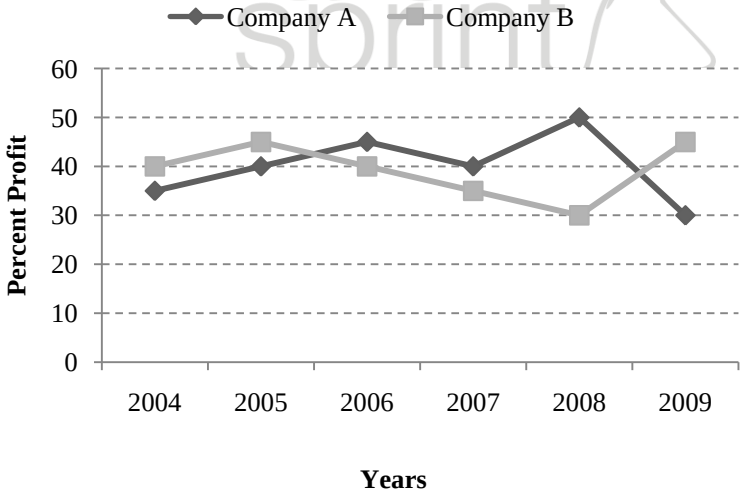
18. In which of the following years was the difference between the profits earned by Company B and Company A the minimum?
    1) 2003 2) 2004 3) 2005 4) 2008 5) None of these

19. In which of the following years was the total profit earned by all three companies together the highest?
    1) 2004 2) 2007 3) 2008 4) 2009 5) None of these

20. What was the approximately percentage increase in the profit earned by Company A from 2006 to 2007?
    1) 36 2) 24 3) 40 4) 20 5) 54

21. What was the difference between the profit earned by Company A in 2004 and the profit earned by Company C in 2009?
    1) ₹ 50 crores 2) ₹ 1 crore 3) ₹ 100 crores 4) ₹ 200 crores 5) None of these

Percent Profit made by two companies over the years



22. If in the year 2004 the expenditures incurred by Company A and B were the same, what was the ratio of the income of Company A to that of company B in that year?
    1) 27 : 28 2) 14 : 23 3) 13 : 19 4) Cannot be determined 5) None of these

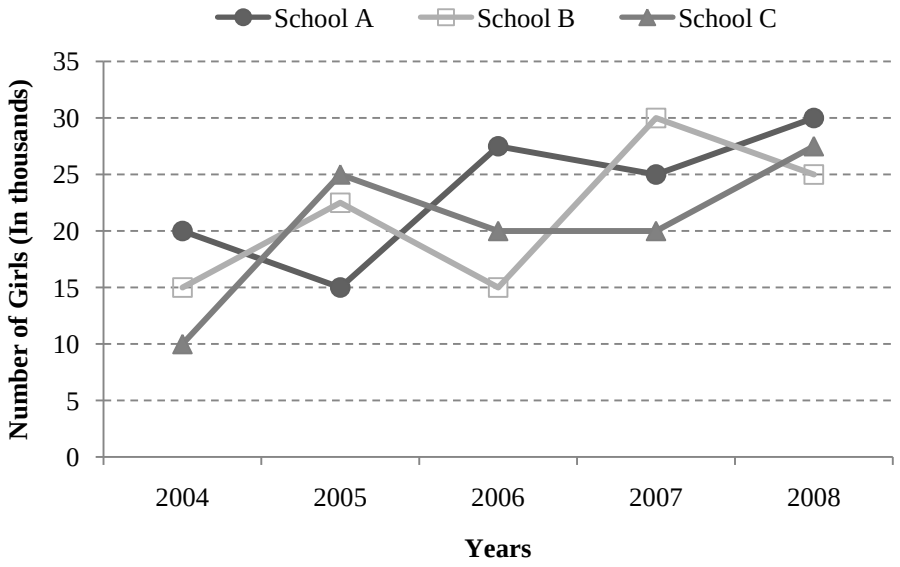
23. If the amount of profit earned by Company A in the year 2007 was ₹ 1.5 lakhs, what was its expenditure in that year?
    1) ₹ 1.96 lakhs 2) ₹ 2.64 lakhs 3) ₹ 1.27 lakh 4) ₹ 3.75 lakhs 5) None of these

24. What is the average per cent profit earned by Company B over all the years together?
    1) 19 2) 24 3) 12 4) 37 5) None of these

25. If in the year 2008, the incomes of both the companies A and B were the same, what was the ratio of the expenditure of Company A to the expenditure of Company B in that year?
    1) 21 : 25 2) 7 : 9 3) 13 : 15 4) Cannot be determined 5) None of these

26. What is the ratio of the amount of profit earned by Company A to that by company B in the year 2009?
    1) 2 : 3 2) 4 : 7 3) 11 : 15 4) Cannot be determined 5) None of these

The graph shows the number of girls in three schools A, B and C over the years



27. What was the ratio between the number girls enrolled in the school C in the year 2007 and the total number of girls enrolled in school A and School B together in the same year?
    1) 11 : 3 2) 3 :11 3) 4 : 11 4) 4 : 7 5) None of these

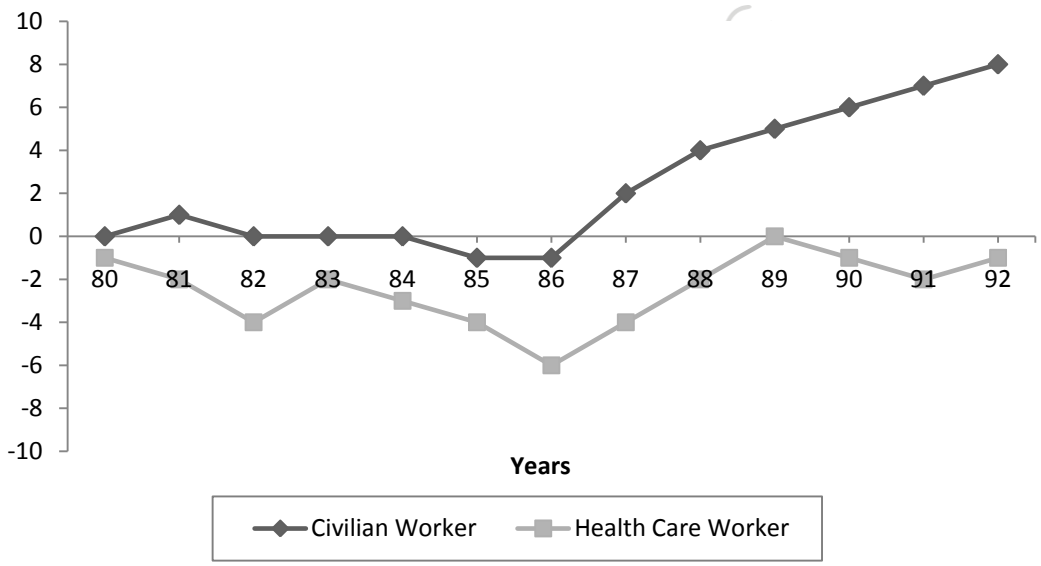
28. In which school was the difference between the number of girls enrolled in the year 2008 and 2004 minimum?
    1) Only schools-A 2) Only school-B 3) Only school –C
    4) Both schools-A and school –B 5) Both school-A and school-C

29. What was the approximate average number of girls enrolled in the year 2006 in all the three schools together?
    1) 20,800 2) 23,000 3) 20,000 4) 22,500 5) 21,600

30.The number of girls enrolled in school C in the year 2007 was what percentage of total number of girls enrolled in all the three schools in the year 2004?
1) 66.66 2) 44.44 3) 50 4) 22.5 5) 21,600

31.In which year was the total number of girls enrolled in all the three schools together second highest?
1) 2004 2) 2005 3) 2006 4) 2007 5) 2008

The following line graph shows the percentage change in number of workers of different types over the previous year during year 1980 to 1992.



32.In 1980, if number of civilian workers and health care workers are same and as equal to 5000, then what will be the difference between these two in 1986?
1) 234 2) 433 3) 587 4) 915 5) None of these

33.If number of civilian workers and the number of health care workers are same in 1984 and number of civilian workers is 500 more than number of health care workers in 1987, then what will be the difference between these two classes of workers in 1990?
1) 1631 2) 1206 3) 916 4) 375 5) None of these

34.If in 1980 civilian workers are twice of health care workers, then what will be the ratio of

civilian workers to healthcare workers in 1984?

1) 5.4: 1 2) 3.34: 3) 2.27 : 1 4) 1.65 : 1 5) None of these

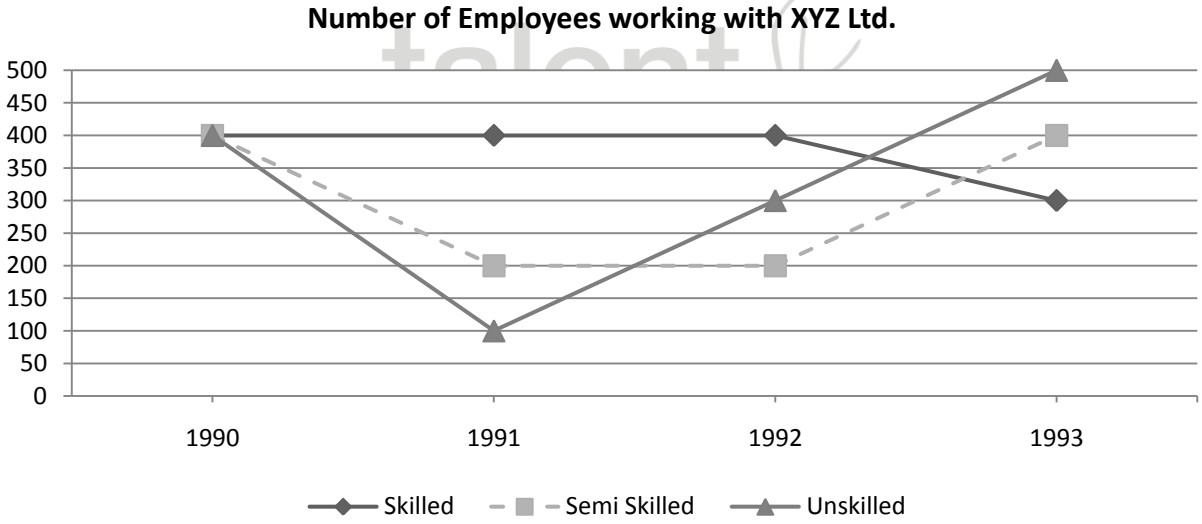
35. If civilian worker's wages is ₹ 60 per head and health care workers wages is ₹ 75 per head and the total wages of civilian workers and health care workers in 1991 are ₹ 50000 and ₹ 70000 respectively, then what is difference in total wages of civilian workers and health care workers in 1992?

1) ₹ 58002)₹ 112003) ₹ 153004) ₹ 22400 5) None of these

36. If the ratio of total wages of the civilian workers to the healthcare workers is 3 : 2 in 1985, then what will be the ratio of total wages of the civilian workers to the healthcare workers in 1990? (Wages per head are as in Q.4)

1) 3: 2 2) 2: 3 3) 1: 2 4) 2: 1 5) None of these

The following line graph shows the number of employees of different categories, working with XYZ Ltd. in the given years.



37. In which year was the number of skilled employees as a percentage of total employees the highest?

1) 1990 2) 1991 3) 1992 4) 1993 5) None of these

38. Maximum percentage increase shown by any category over the previous year for the given years is for

1) skilled 2) semi skilled 3) unskilled 4) None of these 5)Semi and Unskilled

39. During which year did the number of total employees of XYZ Ltd register the maximum percentage growth over the previous year?

1) 1993 2) 19913) 1992 4) Same in 1991& 1992 5) None of these

40.If the percent growth rates of the number of skilled, unskilled and semiskilled employees are 10%,20%,30% respectively (over the 1993 values), then the total number of employees in 1994 will be

1) 1620 2) 1440 3) 1460 4) 1450 5) None of these

KEY

1.3**:** Profit earned by company L in the year 2006= 1.84 × $\frac{125}{100}$ =1.84 × $\frac{5}{4}$ = ₹ 2.3 lakhs.

2.3**:** Profit earned by M in the year 2006 = 3.63 ×$\frac{100}{120}$ × $\frac{100}{125}$ =₹ 2.42 lakh

3.5**:** Required average percentage rise in profit of company H= $\frac{20+15+25+30+35+30}{6}$ = $\frac{155}{125}$ = 25 $\frac{5}{6}$ %

4.1**:** Since profit increases every year. It will take the highest value in 2009.

5.4**:** Required increase=$\frac{(35-20)}{20}$ ×100 = $\frac{15}{20}$ × 100 = 75%

6.5**:** Hint: Let us suppose making one ++ piece of any item is equal to one work.

Then, X takes 3 days to complete the work. Similarly, Y takes 4 days to do the same work.

Also, together in one by they complete$\frac{1}{3}$ + $\frac{1}{4}$ = $\frac{4+3}{12}$ = $\frac{7}{12}$ work.

To complete 1 work (making one piece of chair) they require $\frac{12}{7}$ days

7.3

8.5: Required number of days= 2 + 3 + 8 + 10 = 23

9.2: Profit earned by Company B in 2006 is 65% of investment or 812500.

Income = $\frac{812500}{65}$ × 165 = 2062500

10.3: Let the amount invested by Company A and B in the year 2005 be₹ x each.

Income of A in 2005 = 1.70x

Income of B in 2005 = 1.55x

Ratio = $\frac{A}{B}$ = $\frac{1.70x}{1.55x}$ = $\frac{34}{31}$

11.2: Amount invested by Company B in 2009 = $\frac{1}{3}$ ×27 × 10^5 =9 lakh

Amount invested by Company A in 2009 = $\frac{2}{3}$ × 27 ×10^5 = 18 lakh

Profit earned by Company B = $\frac{80}{100}$ × 9 × 10^5 = 72 × 10^4

Profit earned by company A = $\frac{75}{100}$ ×18 = 13.5 lakh

Total profit = 13.5 + 7.2 = 20.7 lakh

12.1: Income of A in 2007 = $\frac{145}{100} \times 12 \times 10^5 = 174 \times 10^4$

Amount invested in 2008 = $\frac{174\times10^4}{160} \times 100 = 1087500$

13.5: Let total investment b ₹ x 55% of x= 10.15×10^5x= $\frac{10.15\times10^5}{55} \times 100 = 1845454$

14.3: Income of Company B in 2004= $1.55 \times 12 \times 10^5$ = 18.6 lakh

investment in 2005 = 18.6 lakh

Profit earned in 2005 = $\frac{55}{100} \times 18.6 \times 10^5$ = 10.23 lakh

15.1: Investment of Company A in 2008 = $\frac{24\times10^5}{1.60}$ = 15 lakh

Profit in2008 = 24-15=9 lakh.

Profit in 2007 = $\frac{45}{100}\times 15 \times 10^5$ =6.75 lakh

Required answer = 9-6.75 = 2.25 lakh

16.4: Required answer =-[$\frac{\frac{90}{100}\times25\times10^5 + \frac{70}{100}\times25\times10^5}{2}$] = $\frac{25\times10^5}{100}$ [$\frac{90+70}{2}$]= $25 \times 10^3 \times 80$ =20 lakh

17.2: Required average = $\frac{350+400+450}{3} = \frac{1200}{3}$

18.5: In 2007 the difference between profit earned by A and B is ₹ 24 crores. This is minimum.

19.4: By viewing the graph only,, it is the year 2009 for which the total profit earned by all the companies is maximum.

20.1: Required % increase = $\frac{100}{275} \times 100$ =36%

21.3:Requd difference = 400 – 300= ₹ 100 crores.

22.1: Let the expenditure of companies A and B in 2004 be₹ 100 each. (Since we have to find the ratio of income, we can assume such value of expenditure.

$IA_{04} = 100\times \frac{135}{100} = 135$ similarly, $I_{B04} = 140$. $\frac{IA_{04}}{IB_{04}} = \frac{135}{140} = 27:28$

23.4: EA_{2007} = 1.5 ($\frac{100}{40}$) = 3.75 lakh

24.5: Required average per cent profit earned by company B = $\frac{40+45+40+35+30+45}{6} = \frac{235}{3} = 39\frac{1}{6}\%$

25.3: Let the Income of each company be ₹ x in the year 2008.

Then $E_A = x\times \frac{100}{100+50} = \frac{2}{3}$ x.

$E_B = x\times\frac{100}{100+30} = \frac{10}{13}$ x

$\frac{E_A}{E_B} = \frac{\frac{2}{3}x}{\frac{10}{13}x}$ = 13 : 15

26. 4: Since no amount (of income, exp or profit) is given in the question, we can't find the ratio of profits.

27.5: Required ratio = 20:25 = 4:5 **28.**4

29.1: In 2006, no. of girls = 62500 Avg girls = $\frac{62500}{3}$ = 20800

30.2

31.4

32.4 33.2 34.3 35.3 36.4 37.2 38.3 39.1 40.4