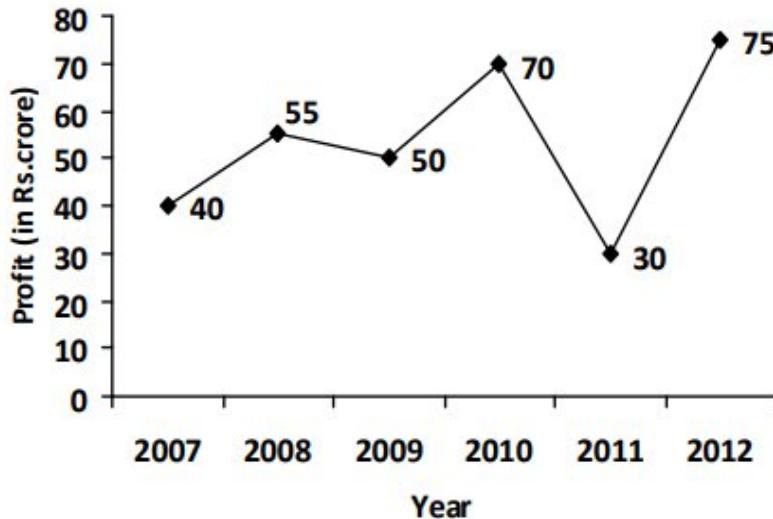


# Line Graphs

Instructor: Akash Bhattacharya

Q1) Study the following graph carefully to answer the questions that follow:

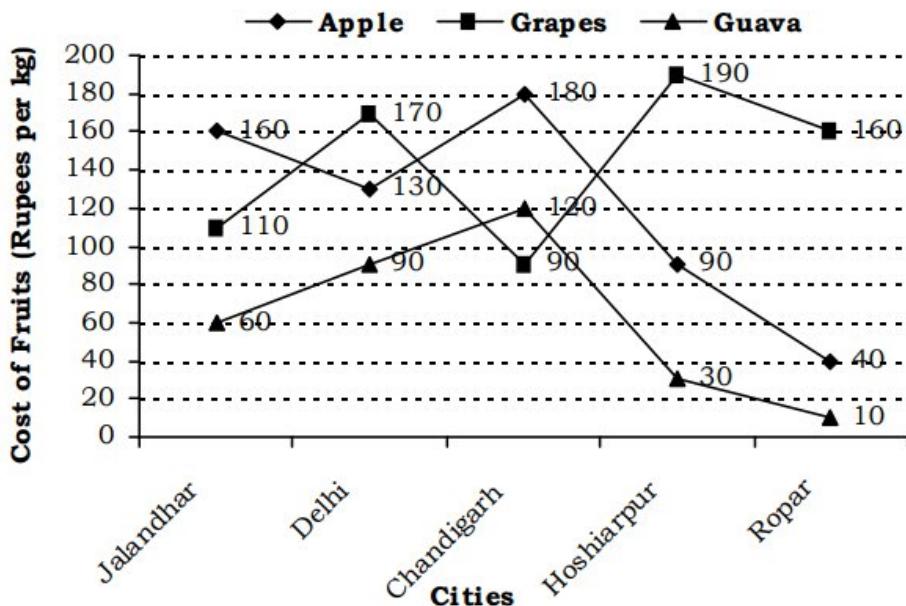
### Profit earned by a company over the years



- 1) If the income of the company in the year 2010 was 120 crore, what was the percentage profit of the company in the year 2010?  
(a) 100% (b) 120% (c) 133% (d) 125% (e) 140%
- 2) If the expenditure of the company in the year 2011 was 85 crore, what was the ratio of income to expenditure of the company in that year?  
(a) 23:17 (b) 5:4 (c) 11:8 (d) 21:16 (e) None of these
- 3) What is the approximate average profit (in crore) earned by the company over the years?  
(1) 50 (2) 48 (3) 53 (4) 57 (5) 61
- 4) If the income of the company in the year 2007 was Rs. 950000000, what was the expenditure of the company in that year?  
(a) 50000000 (b) 550000000 (c) 40000000 (d) 350000000 (e) None of these
- 5) What is the percentage increase in the profit of the company in the year 2010 from the previous year?  
(a) 43% (b) 46% (c) 50% (d) 40% (e) None of these

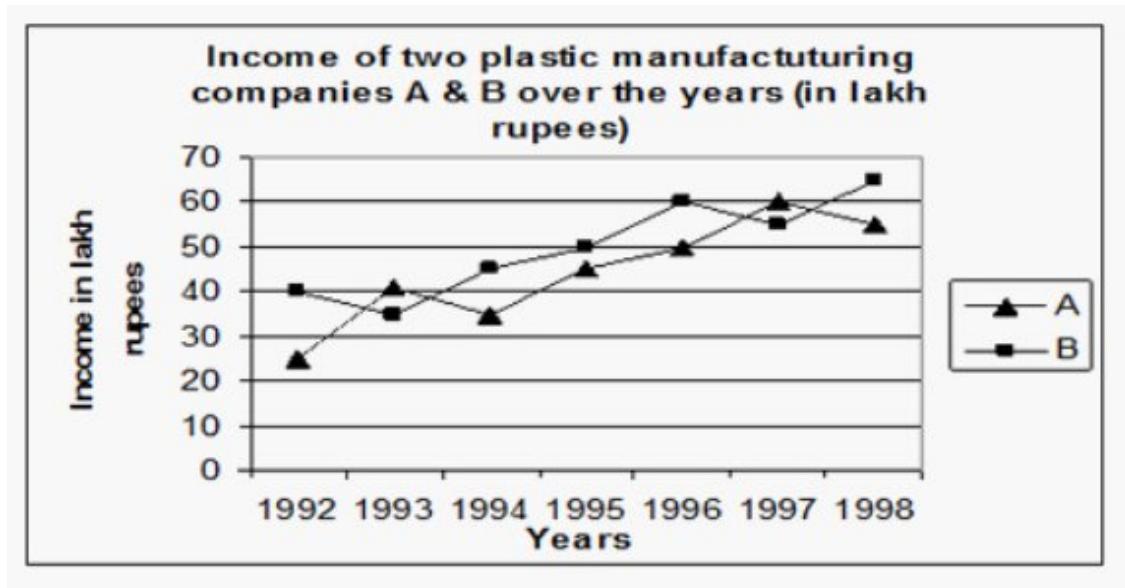
Q2)

**Cost of three different fruits (in rupees per kg) in five different cities**



- 1) In which city is the difference between the cost of one kg of apple and the cost of one kg of guava the second lowest?  
(a) Jalandhar (b) Delhi (c) Chandigarh (d) Hoshiarpur (e) Ropar
- 2) The cost of one kg of guava in Jalandhar is approximately what per cent of the cost of two kg of grapes in Chandigarh?  
(a) 66 (b) 24 (c) 28 (d) 34 (e) 58
- 3) What total amount will Ram pay to the shopkeeper for purchasing 3 kg of apples and 2 kg of guavas in Delhi?  
(a) Rs 530 (b) Rs 450 (c) Rs 570 (d) Rs 620 (e) Rs 490
- 4) Ravinder had to purchase 45 kg of grapes from Hoshiarpur. The shopkeeper gave him a discount of 4% per kg. What amount did he pay to the shopkeeper after the discount?  
(a) Rs 8208 (b) Rs 8104 (c) Rs 8340 (d) Rs 8550 (e) Rs 8410
- 5) What is the ratio of the cost of one kg of apples from Ropar to the cost of one kg of grapes from Chandigarh?  
(a) 3 : 2 (b) 2 : 3 (c) 4 : 9 (d) 16 : 81 (e) 81 : 16

Q3) Study the following graph carefully and answer the questions given below (Profit is taken as the % of expenditure.)



- 1) What would be the ratio of income of company B in 1996 to the income of company A in 1993?  
A. 9 : 10  
B. 10 : 9  
C. 3 : 2  
D. 15 : 13
- 2) If the expenditure of company B in 1997 is Rs. 50 lakhs, the percent profit earned by both the companies A and B in 1997 is equal, then what is the amount of profit earned by company A in 1997 (approximately)?  
A. Rs. 5 lakhs  
B. Rs. 4.5 lakhs  
C. Rs. 5.5 lakhs  
D. Rs. 6.2 lakhs
- 3) If in the year 1995, company 'B' had a profit of 25%, what approximately was its expenditure in the year 1995 ?  
A. Rs. 22 lakhs  
B. Rs. 29 lakhs  
C. Rs. 40 lakhs  
D. Rs. 27 lakhs

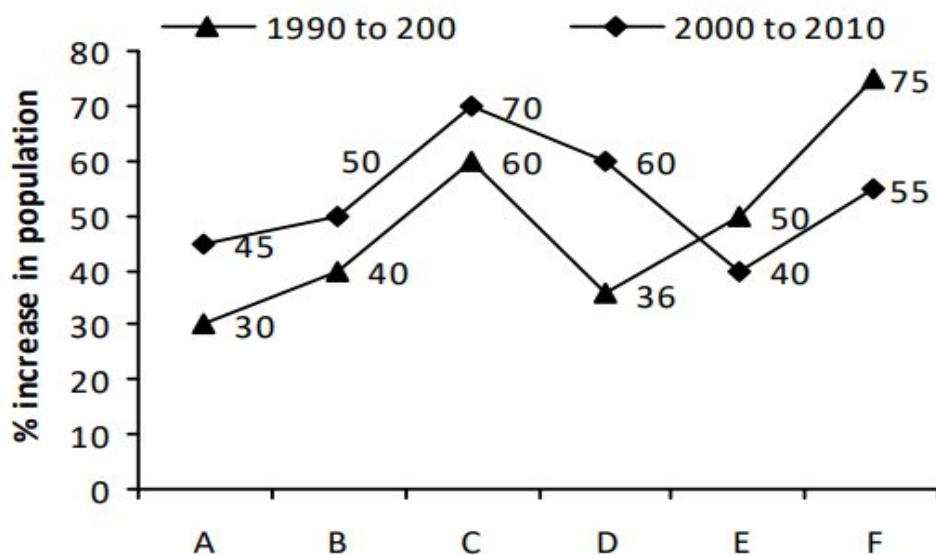
4) The average income of company 'B' per year is what percentage of the average income of company 'A' per year? (approximately)

- A. 70%
- B. 110%
- C. 113%
- D. 90%

5) Income of company 'A' in 1996 is what percent of income of company 'B' in 1992?

- A. 75%
- B. 63.64%
- C. 133.33%
- D. 125%

Q4) The following graph shows the percentage growth in population of six cities from 1990 to 2000 and 2000 to 2010.



1) If the population of City F in year 1990 was 12 lakh, what will be its population in year 2010?

- (1) 31.65 lakh (2) 32.55 lakh (3) 33.4 lakh (4) 34.64 lakh (5) None of these

2) The population of City D in year 2000 was what per cent of its population in year 2010?

- (1) 57.8% (2) 60% (3) 62.5% (4) 96% (5) 160%

3) In year 1990 the population of City A and City B are equal and the population of City A in year 2010 is 37.7 lakh. What is the population of City B in year 2010?

- (1) 38.4 lakh (2) 42 lakh (3) 43.5 lakh (4) 44 lakh (5) 46.4 lakh

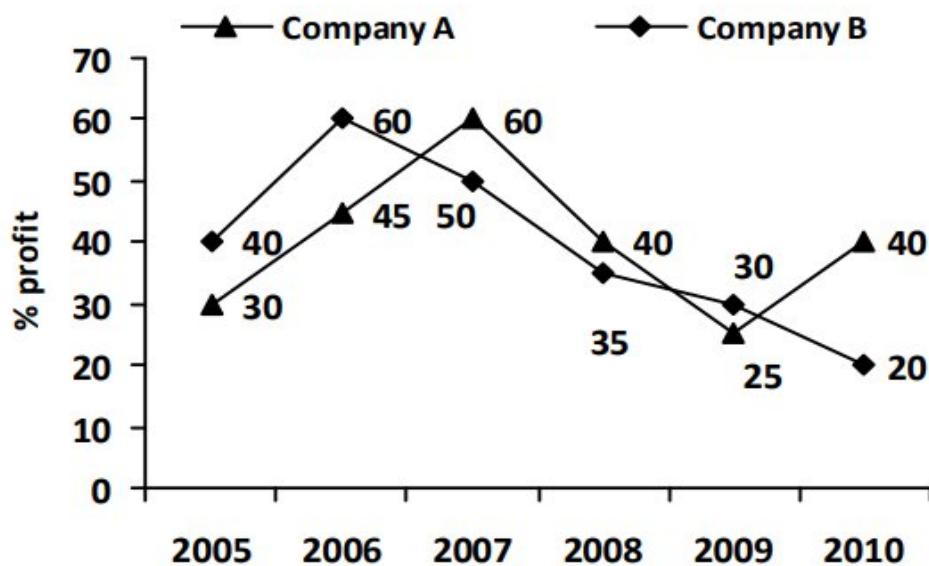
4) If the population of City C in year 2010 and that of City D in year 2000 are equal and they are 27.2 lakh each the population of City C in year 1990 is what percentage of population of City D in the same year?

- (1) 50% (2) 75% (3) 80% (4) 120% (5) 200%

5) The population of City E in year 1990 was what fraction of its population in 2010?

- (1) 8:19 (2) 10:19 (3) 8:21 (4) 10:21 (5) 15:19

Q5) In the following line-graph, the percentage profit earned by two companies A and B during the period 2005 to 2010 is given.



1) What is the percentage increase in the per cent profit of Company A from the year 2006 to 2007?

- (1) 15% (2) 25% (3)  $33\frac{1}{3}\%$  (4)  $52\frac{1}{2}\%$  (5) None of these

2) If the incomes of Company A and B are equal in the year 2007, what is the ratio of the expenditure of A to that of B?

- (1) 6:5 (2) 5:4 (3) 4:3 (4) 3:2 (5) None of these

3) If the income of Company A in 2009 and the expenditure of Company B in 2010 are equal and that are ` 90 lakh each, what is the difference between the income of B in 2010 and the expenditure of A in 2009?

- (1) 18 lakh (2) 36 lakh (3) 45 lakh (4) 41 lakh (5) None of these

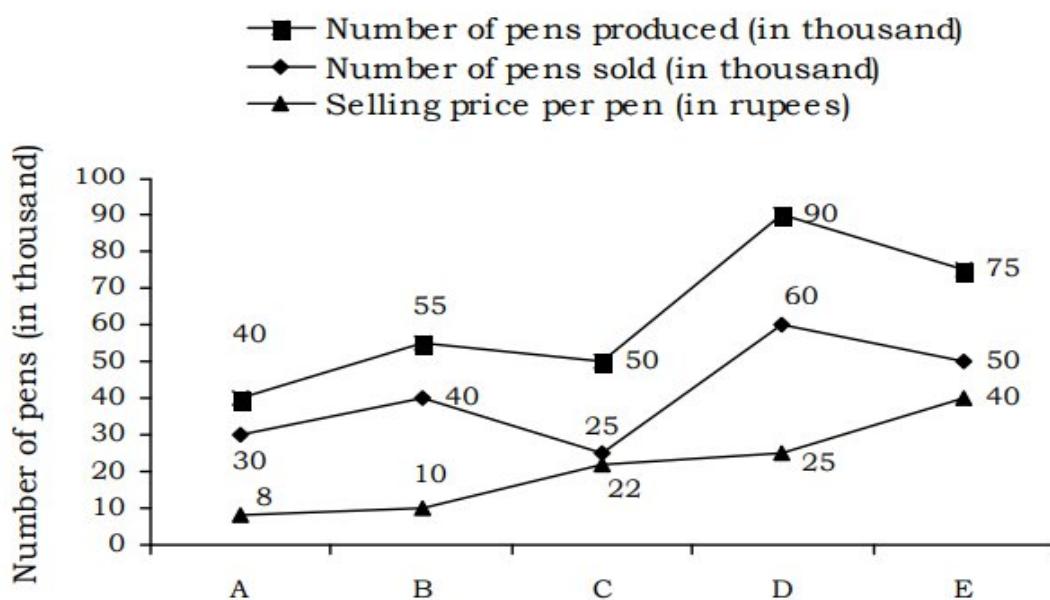
4) If the income of Company A in the year 2010 and the expenditure of Company B in the year 2005 are 98 lakh and 85 lakh respectively, what is the sum of the expenditure of A in 2010 and the income of B in the year 2005?

- (1) 189 1akh (2) 183 1akh (3) 155 1akh (4) 217 lakh (5) None of these

5) The expenditure of Company B in the year 2006 is what percentage of its income in that year?

- (1) 60% (2) 160% (3) 62.5% (4) 40% (5) 80%

Q6) Following line graph shows the number of pens produced by a pen manufacturing company, the number of pens sold by it and the price of one pen of different types.



1) The average number of pens sold by the company is what percentage of the average number of pens produced by it in all the five types together? (Answer in approximate value)

- (1) 56% (2) 62% (3) 66% (4) 70% (5) 75%

2) If the cost of manufacturing of Type A pens is ₹4.50 per pen, what is the net profit earned by the company by selling all pens of type A?

(1) ₹95 thousand (2) ₹1.05 lakh (3) ₹1.20 lakh (4) ₹1.25 lakh (5) None of these

3) What is the net amount received by the company by selling all the pens of all types?

(1) ₹46.91akh (2) ₹47.21akh (3) ₹48.81akh (4) ₹49.4 lakh (5) None of these

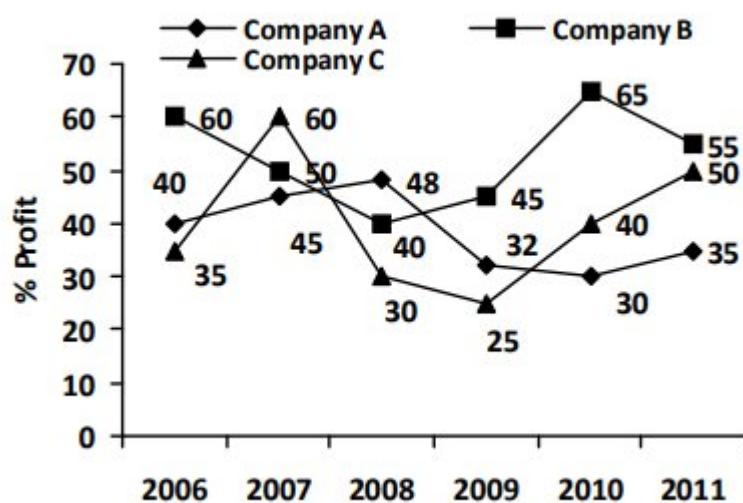
4) If the manufacturing cost of Type C and that of Type D pens is equal and it is ₹15 per pen, what is the net profit earned by the company by selling all pens of Type C and Type D?

(1) ₹6.81akh (2) ₹71akh (3) ₹7.21akh (4) ₹7.51akh (5) ₹7.751akh

5) The profit earned by selling all pens of Type B is what percentage of the total profit earned by selling all pens of Type E if the per unit cost of Type B pens is ₹5.5 and that of Type E is ₹25?

(1) 18% (2) 22% (3) 24% (4) 28% (5) 32%

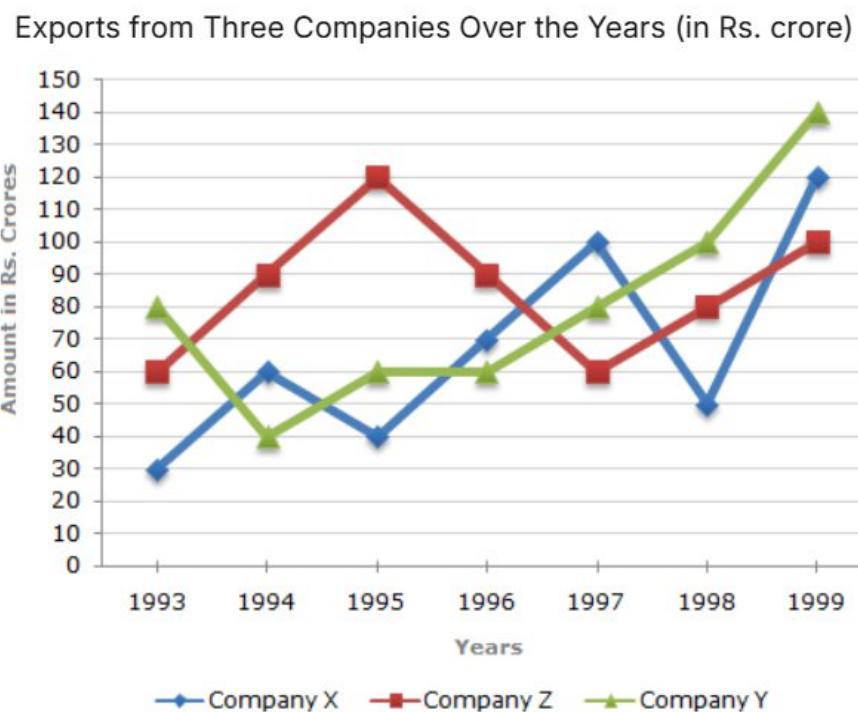
Q5) Following line-graph shows the percentage profit earned by three companies A, B and C in the period of 2006 to 2011.





Q1)

Study the following line graph and answer the questions.



1. For which of the following pairs of years the total exports from the three Companies together are equal?

- (a) 1995 and 1998
- (b) 1996 and 1998
- (c) 1997 and 1998
- (d) 1995 and 1996

2. Average annual exports during the given period for Company Y is approximately what percent of the average annual exports for Company Z?

- (a) 87.12%
- (b) 89.64%
- (c) 91.21%
- (d) 93.33%

3. In which year was the difference between the exports from Companies X and Y the minimum?

- (a) 1994
- (b) 1995
- (c) 1996
- (d) 1997

4. What was the difference between the average exports of the three Companies in 1993 and the average exports in 1998?

- (a) Rs. 15.33 crores
- (b) Rs. 18.67 crores
- (c) Rs. 20 crores
- (d) Rs. 22.17 crores

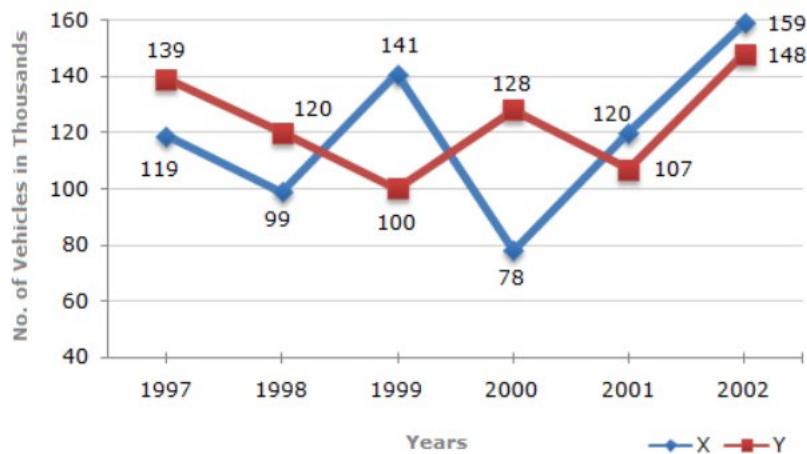
5. In how many of the given years, were the exports from Company Z more than the average annual exports over the given years?

- (a) 2
- (b) 3
- (c) 4
- (d) 5

Q2.

Study the following line graph and answer the questions based on it.

Number of Vehicles Manufactured by Two companies ove the Years (Number in Thousands)



1. What is the difference between the number of vehicles manufactured by Company Y in 2000 and 2001 ?

- (a) 50000
- (b) 42000
- (c) 33000
- (d) 21000

2. What is the difference between the total productions of the two Companies in the given years ?

- 19000
- 22000
- 26000
- 28000

3. What is the average numbers of vehicles manufactured by Company X over the given period ? (rounded off to nearest integer)

- (a) 119333
- (b) 113666
- (c) 112778
- (d) 111223

4. In which of the following years, the difference between the productions of Companies X and Y was the maximum among the given years ?

- (a) 1997
- (b) 1998
- (c) 1999
- (d) 2000

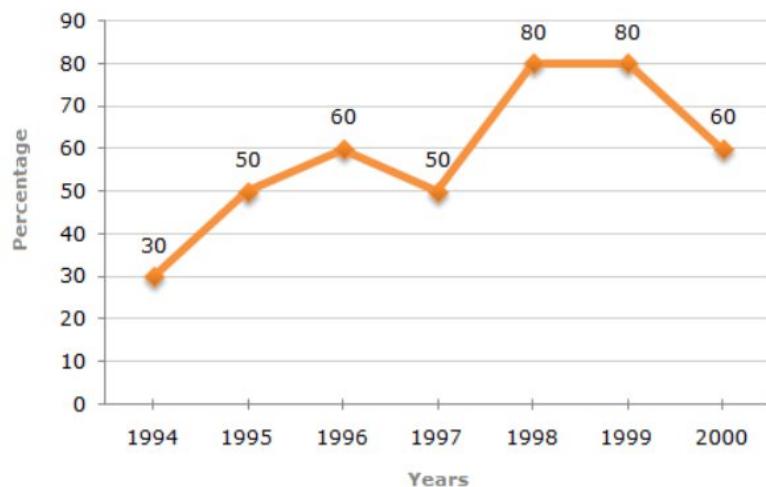
5. The production of Company Y in 2000 was approximately what percent of the production of Company X in the same year?

- (a) 173
- (b) 164
- (c) 132
- (d) 97

Q3.

The following line graph gives the percentage of the number of candidates who qualified an examination out of the total number of candidates who appeared for the examination over a period of seven years from 1994 to 2000.

Percentage of Candidates Qualified to Appeared in an Examination Over the Years



1. The difference between the percentage of candidates qualified to appeared was maximum in which of the following pairs of years?

- (a) 1994 and 1995
- (b) 1997 and 1998
- (c) 1998 and 1999

(d) 1999 and 2000

2. In which pair of years was the number of candidates qualified, the same?

- (a) 1995 and 1997
- (b) 1995 and 2000
- (c) 1998 and 1999
- (d) Data inadequate

3. If the number of candidates qualified in 1998 was 21200, what was the number of candidates appeared in 1998?

- (a) 32000
- (b) 28500
- (c) 26500
- (d) 25000

4. If the total number of candidates appeared in 1996 and 1997 together was 47400, then the total number of candidates qualified in these two years together was?

- (a) 34700
- (b) 32100
- (c) 31500
- (d) Data inadequate

5. The total number of candidates qualified in 1999 and 2000 together was 33500 and the number of candidates appeared in 1999 was 26500. What was the number of candidates in 2000?

- (a) 24500
- (b) 22000
- (c) 20500
- (d) 19000

