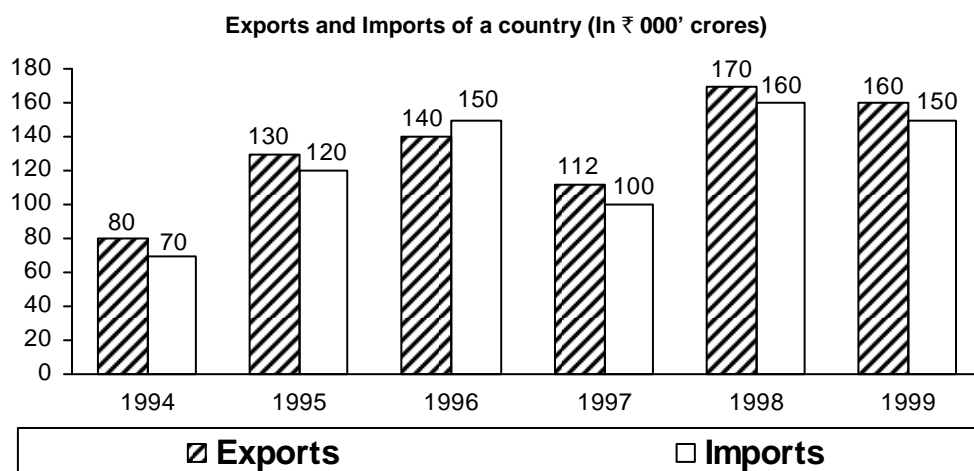


CHAPTER – 2

BAR GRAPHS

Worked out Examples:

These questions are based on the information given below.



- 2.01:** In how many of the given years were the exports at least 10% more than the imports?
 (A) 0 (B) 1 (C) 2 (D) 3

- (B) 1996
 (C) 1997
 (D) 1998

Sol: In 1994, exports
 $= 80 > 70 + \frac{10}{100}(70) = 77$
 In 1995, exports
 $= 130 < 120 + \frac{10}{100}(120) = 132$
 In 1996, exports < imports
 \therefore We need not consider this year
 In 1997, exports
 $= 112 > 100 + \frac{10}{100}(100) = 110$
 In 1998, exports
 $= 170 < 160 + \frac{10}{100}(160) = 176$
 In 1999, exports
 $= 160 < 150 + \frac{10}{100}(150) = 165$
 \therefore The given condition was satisfied in two years.
 Choice (C)

Sol: Exports in a year exceeded that in the previous year in 1995, 1996 and 1998. Percentages by which exports in 1995, 1996 and 1998 exceed the exports in the previous year were $\frac{50}{80}(100)\%$, $\frac{10}{130}(100)\%$ and $\frac{58}{112}(100)\%$ respectively.
 The growth rate was the highest in 1995.
 Choice (A)

- 2.04:** What is the simple average annual growth rate in the imports from 1994 to 1999?
 (A) 15 (B) 18 (C) 19 (D) 23

Sol: Imports in 1994 (in '000 crores) = 70
 Imports in 1999 (in '000 crores) = 150
 Percentage growth = $\frac{150 - 70}{70} \times 100 = 115\%$
 Average annual growth = $\frac{115}{5} = 23$
 Choice (D)

- 2.02:** What were the average exports for the given period (in '000 crores)?
 (A) 145 (B) 132 (C) 126 (D) 119

Sol: Average exports
 $= \frac{80 + 130 + 140 + 112 + 170 + 160}{6} = 132$
 Choice (B)

- 2.05:** Among the years in which the imports as well as exports exceeded those in the previous years, in how many years was the percentage increase in imports less than the percentage increase in exports?
 (A) 0 (B) 1 (C) 2 (D) 3

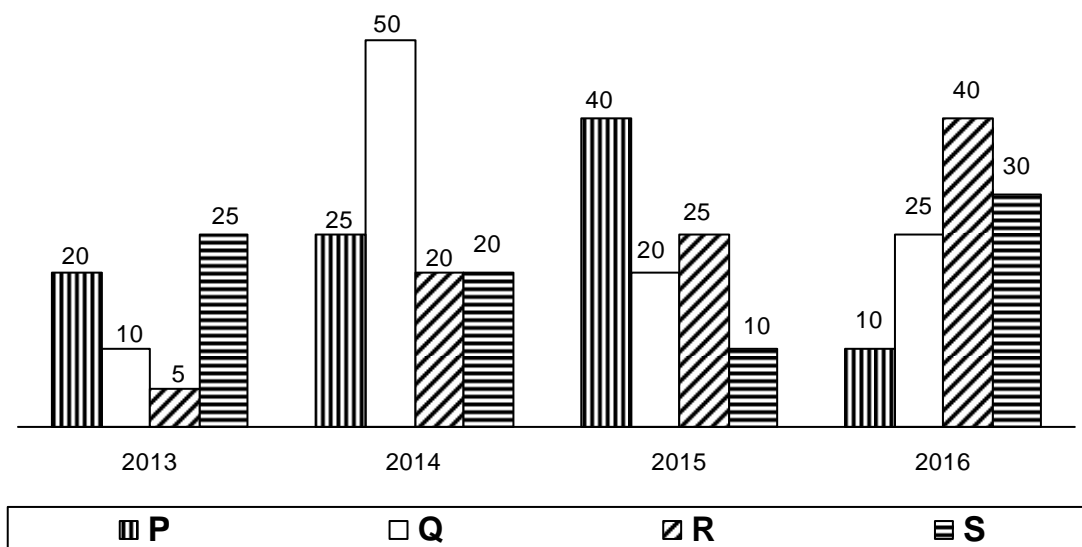
Sol: The imports as well as exports exceeded those in the previous years in 1995, 1996 and 1998.
 \therefore In none of the years was the given condition satisfied.
 Choice (A)

- 2.03:** From 1995 to 1999, in which year was the percentage growth in exports, when compared to the previous year, the highest?
 (A) 1995

Exercise – 2(a)

Directions for questions 1 to 5: These questions are based on the information given below.

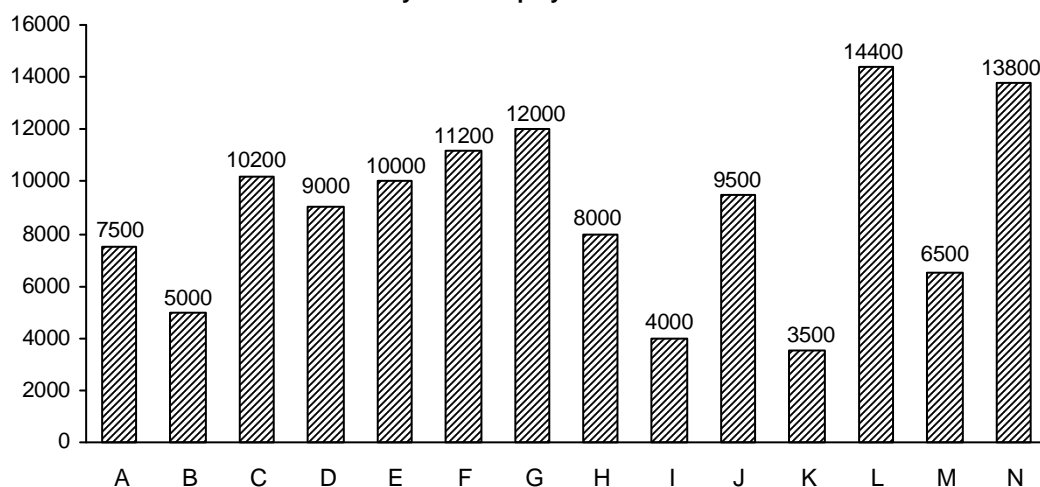
The bar graph gives the percentage increase in the sales of four companies – P, Q, R and S in four years from 2013 to 2016, when compared to the corresponding previous year.



- Which of the following companies had the highest percentage increase in sales from 2013 to 2016?
(A) P (B) Q (C) R (D) S
- If the sales of company R in 2013 were ₹120 crores, then what were its sales (in ₹ crores) in 2015?
(A) 160 (B) 172 (C) 180 (D) 192
- If the ratio of the sales of P and S in the year 2012 was 2 : 1, then what was the ratio of their sales in 2016?
(A) 40 : 27 (B) 42 : 25
(C) 39 : 21 (D) 28 : 13
- If the expenses of company R in the year 2013 were 60% of its sales and the expenses increased by 100% from 2013 to 2016, then its profits in 2016, when compared to that in 2013 were _____.
(A) Higher (B) Lower
(C) Equal (D) Either (A) or (C)
- If the ratio of the sales of companies Q and R in 2012 was 1 : 2, then by what percentage should the sales of company Q grow in 2017, when compared to that in 2016, for the sales of company Q in 2017 to be equal to that of company R in 2016.
(A) 62 (B) 70 (C) 78 (D) 85

Directions for questions 6 to 10: These questions are based on the information given below.

Runs made by fourteen players in their ODI career



$$\text{Average} = \frac{\text{Total runs scored}}{\text{Number of times dismissed}}$$

Directions for question 6: Type in your answer in the input box provided below the question.

6. If each of B, C, D, E and J are dismissed 250 times in their ODI career, then what is the average of the average runs scored by these five players?

Directions for question 7: Type in your answer in the input box provided in the question.

7. If player I was dismissed at least 50 times in his career, then his maximum average would be .

Directions for questions 8 and 9: Type in your answer in the input box provided below the question.

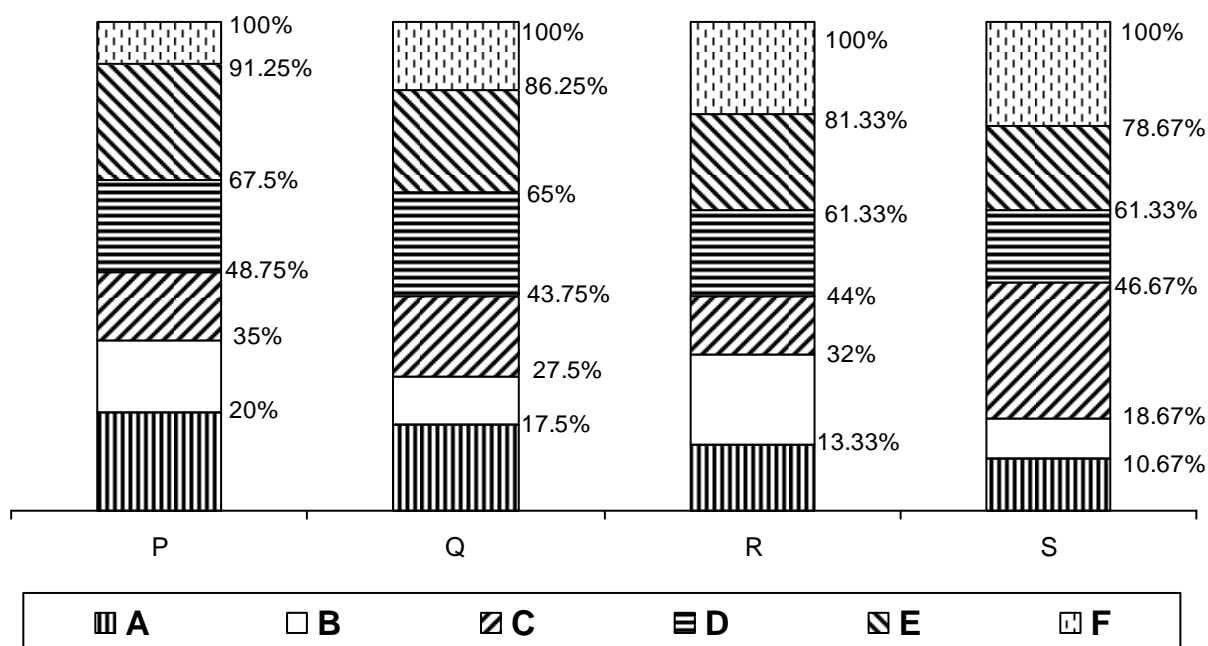
8. For player F, if the ratio of total runs scored to the number of times dismissed is 400 : 7 then how many times had he been dismissed?

9. What is the maximum difference in the total runs scored by any two of the given players?

10. What is the ratio of the average of player H to that of player J?
 (A) 2 : 3 (B) 3 : 2
 (C) 2 : 5 (D) Cannot be determined

Directions for questions 11 to 15: These questions are based on the information given below.

The stacked bar graph represents the percentage break up of the marks of four students P, Q, R and S in six tests – A, B, C, D, E and F.

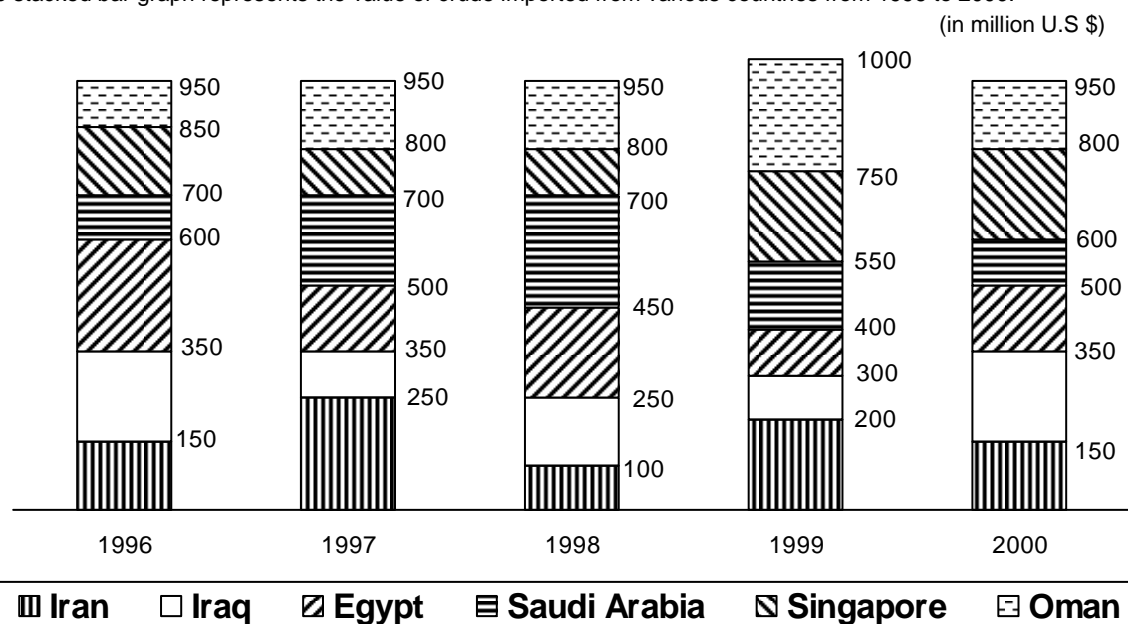


Total marks of P, Q, R and S are 400, 400, 375 and 375 respectively.

11. Who among the following scored the highest marks in test D?
 (A) P (B) Q (C) R (D) S
12. If the maximum marks in each test are 120, in how many tests did Q score more than 60%?
 (A) 0 (B) 1 (C) 2 (D) 3
13. In which of the following tests were the marks scored by P, Q, R and S together, the highest?
 (A) C (B) D (C) E (D) F
14. The maximum difference between the marks scored by any two of the students in the same test was _____.
 (A) 40 (B) 50 (C) 55 (D) 60
15. How many students scored more than 50 marks in at least five of the given six tests?
 (A) 0 (B) 1 (C) 2 (D) 3

Directions for questions 16 to 20: These questions are based on the information given below.

The stacked bar graph represents the value of crude imported from various countries from 1996 to 2000.

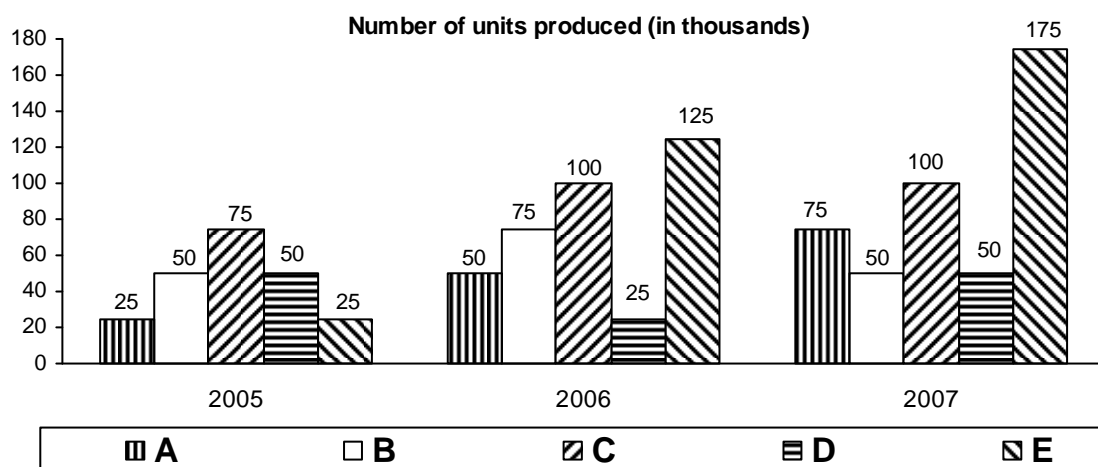


16. In 1996, the value of crude imported from Egypt is 25% more than that in the previous year and in the previous year the import from Egypt was 25% of the total import in that year (from the given six countries). By how much (in million U.S \$) are the imports from the six countries in 1996 more than that in the previous year?
(A) 100 (B) 200 (C) 150 (D) 250
17. What is the average value (in million U.S \$) of crude imported from Iraq in the given years?
(A) 100 (B) 175 (C) 200 (D) 150
18. In 1997, the value of crude imported from how many countries was more than the average value of crude imported from the respective countries in the given years?
(A) 1 (B) 2 (C) 3 (D) 4
19. What is the simple average annual percentage decrease in the import from Egypt from 1996 to 2000?
(A) 16% (B) 25% (C) 3.5% (D) 10%
20. In 1996, if the value of crude imported from Saudi Arabia is 5% of the total value of crude imported in that year and in 1999, the value of the imports from Oman are 10% of the total import in that year, then the total value of crude imported in 1996 is what percentage less than that in 1999?
(A) 30% (B) 25% (C) 40% (D) 20%

Exercise – 2(b)

Directions for questions 1 to 5: These questions are based on the information given below.

XYZ manufactures five different types of vehicles – A, B, C, D and E. The number of units of the different types of vehicles manufactured from 2005 to 2007 are represented in the form of a bar graph.



- If the production target of all the vehicles together in 2008 is 20% more than the production in 2007, then what is the percentage deficit in 2008 with respect to the target, if the number of vehicles produced in 2008 is 520 thousand?
(A) Lies between 4% and 5%.
(B) Less than 3%.
(C) Greater than 5%.
(D) Lies between 3% and 4%.
- If the production of each of A, B, C and D increases by 10% in 2008 and the overall increase in production of all the vehicles is 15%, then what is the net increase in the production of vehicles of type E?
(A) 40,000 (B) 35,000
(C) 30,000 (D) 25,000
- By how many percentage points is the production of the vehicles of type C, as a percentage of the total number of vehicles produced, more in 2006 than in 2007?
(A) 3.33 (B) 4.88 (C) 4.44 (D) 2.22
- For vehicles of type B, the percentage decrease in the production from 2006 to 2007 is equal to the percentage increase in the price during the same period. If the price of each vehicle of type B in 2006 was ₹2 lakh, then its price in 2007 is
(A) ₹2.33 lakh (B) ₹6 lakh
(C) ₹2.99 lakh (D) ₹2.66 lakh
- What is the percentage increase in the total production of vehicles by XYZ from 2005 to 2007?
(A) 100% (B) 50% (C) 150% (D) 200%

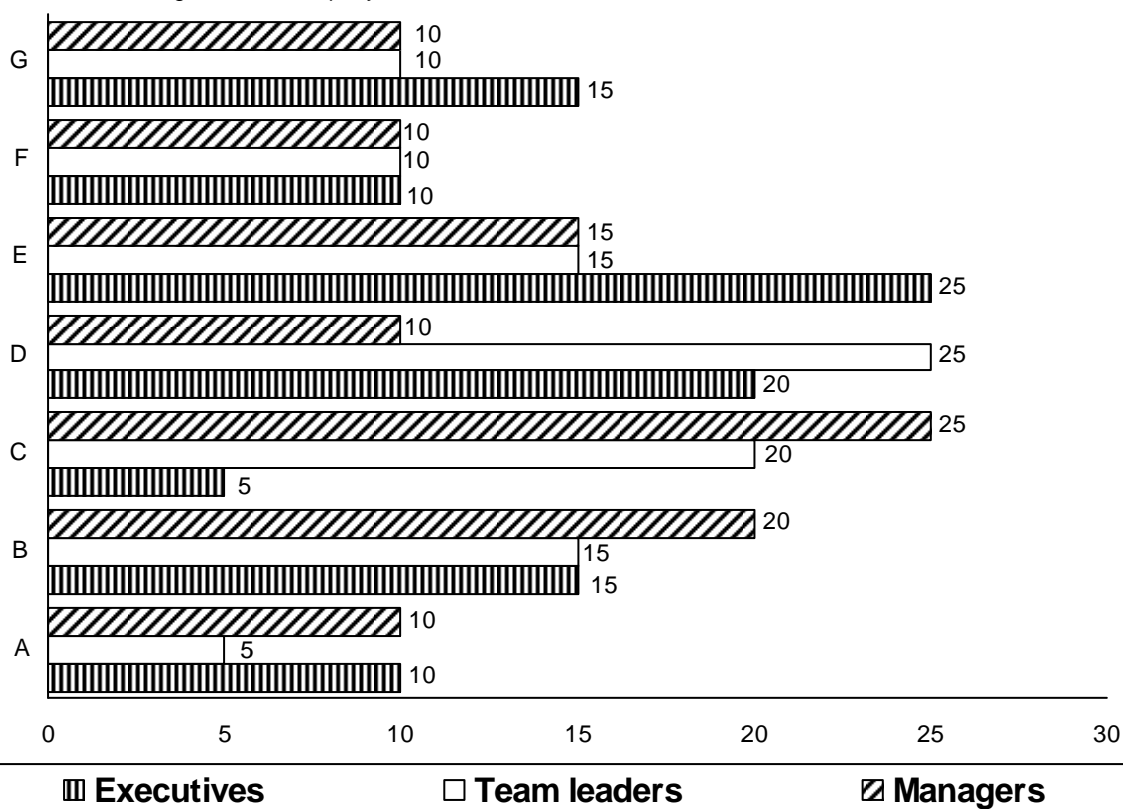
Directions for questions 6 to 10: These questions are based on the information given below.

Percentage break up of executives, team leaders and managers in a company according to the section they work in.

Total number of executives in the company = 2400

Total number of team leaders in the company = 300

Total number of managers in the company = 120



- If 30% of the managers in section C leave the company, then approximately how many managers will be there for every 40 executives in that section?
(A) 6 (B) 5 (C) 8 (D) 7
- If 50% of the executives of section E join a new company, then the remaining executives of the section form what percentage of the total executives in the company?
(A) 20% (B) 22.22%
(C) 12.5% (D) 14.28%
- Which of the following is the highest?
(A) Number of team leaders in section D.
(B) Number of executives in section C.
(C) Number of managers of section C.
(D) Number of executives in section F.

9. In section E, the average salary of a manager is ₹30,000 and that of an executive is ₹1,000. What percentage of the amount paid as salary to the managers is the amount paid as salary to the executives?
 (A) 111.11% (B) 90.90%
 (C) 125% (D) 112.12%
10. What is the ratio of the number of executives in sections G, F and E together to that of the number of managers in sections A, B, C and D together?
 (A) 400 : 27 (B) 200 : 13
 (C) 600 : 51 (D) 300 : 13

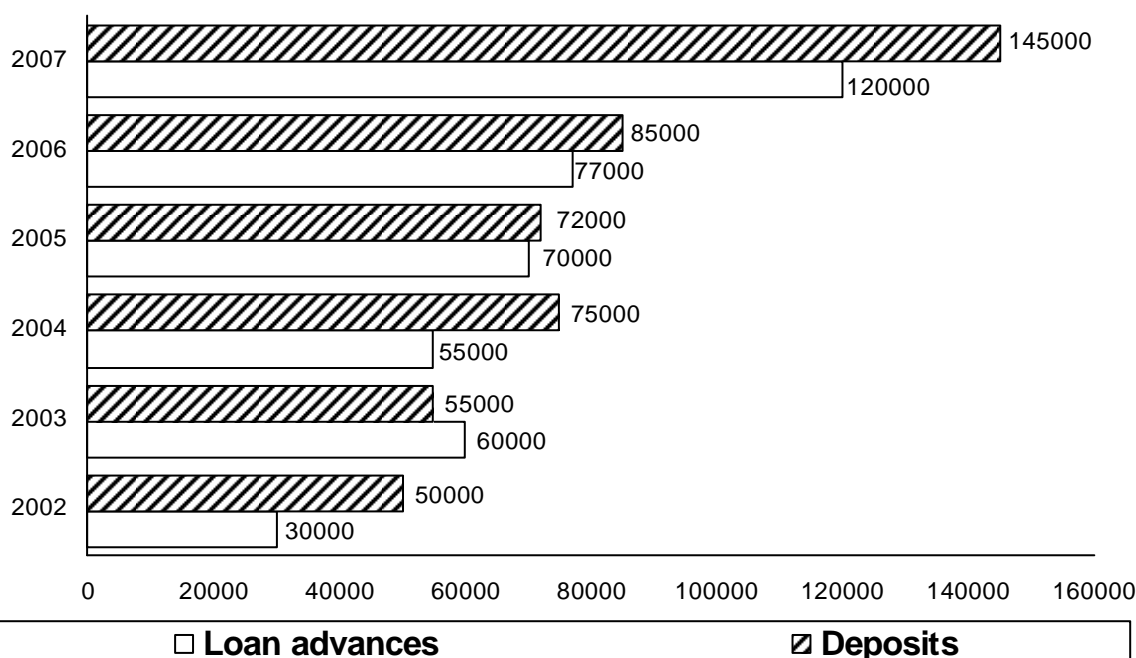
Directions for questions 11 to 15: These questions are based on the table and bar graph given below.

Branches of ABC bank from 2002 to 2007

Branches \ Year	2002	2003	2004	2005	2006	2007
Andhra Pradesh	23	47	58	76	92	105
Karnataka	0	10	26	45	63	88
Tamil Nadu	0	0	15	29	42	68
Kerala	0	0	0	8	36	78

Note: The Bank is operating only in the 4 states mentioned above.

Deposits (in ₹ cr) and loan advances (in ₹ cr) by the bank from 2002 to 2007



Directions for questions 11 to 15: Type in your answer in the input box provided below the question.

11. In which of the following years did the deposits, when compared to the previous year, show the second highest percentage increase?

12. What is the approximate simple average annual growth rate in the number of branches of ABC bank from 2003 to 2007?

13. If there are 12,650 customers for each branch of the bank both in 2005 and in 2007, then what is the percentage increase (approximated to the next

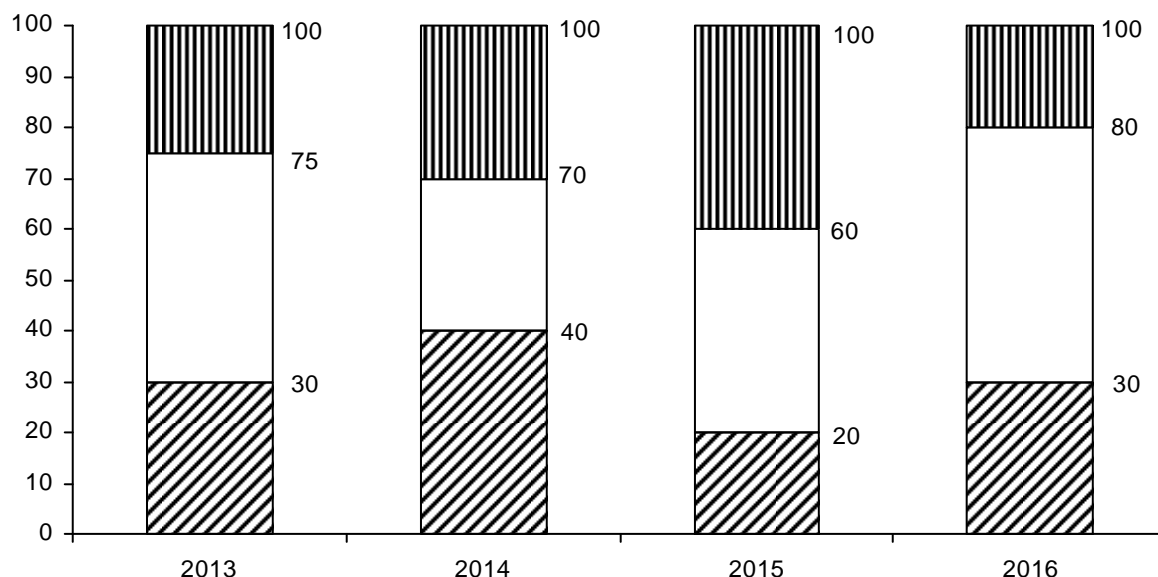
highest integer) in the total number of customers of the bank from 2005 to 2007?

14. In 2006, if there is an average of 800 customers for each branch of the bank, then what is the average deposits per customer (in lakhs)?

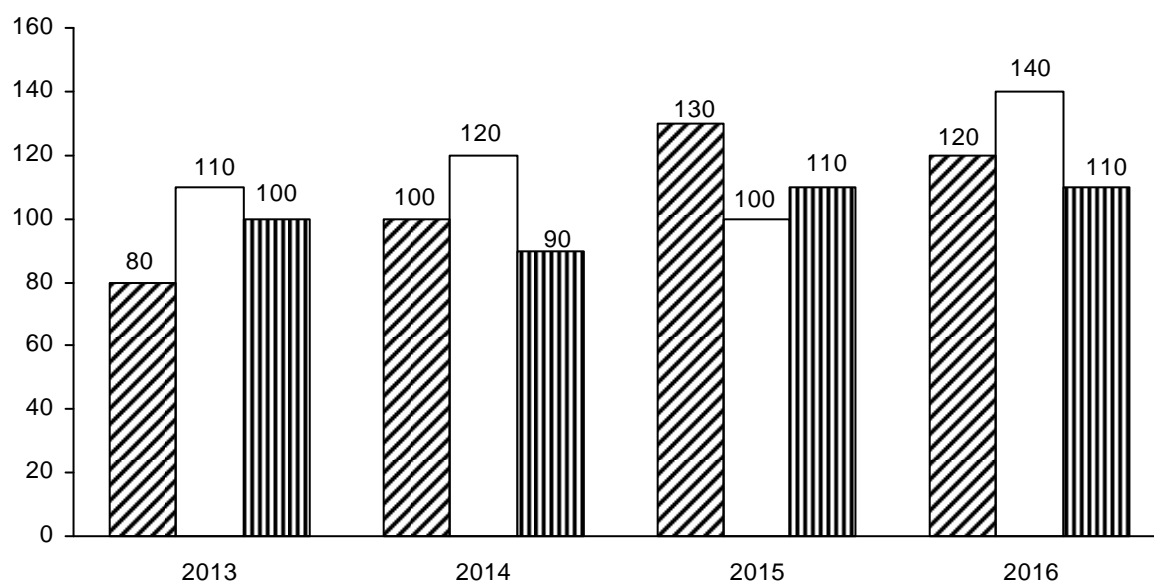
15. If there is an annual growth of 20% in the total number of branches of the bank from 2007 to 2009, then how many branches did the bank have in 2009?

Directions for questions 16 to 20: These questions are based on the information given below.

Percentage breakup of students who received interview calls from B-school 'x' on the basis of the institute where they attended coaching



Number of students of different coaching institutes who got admission in B-school 'x' over the years



 A	 B	 C
--	--	--

No student attended coaching in more than one institute and in more than an year.

- 16.** If 1000 students received interview calls from B-school 'x' in each of the given years, then how many students of institute A received interview calls but were not selected in the given period?
- (A) 520
(B) 770
(C) 430
(D) 620

- 17.** If in 2016, 1000 students who attended coaching in the three institutes together received interview calls from B-school 'x', then the students of institute C, who got interview calls but did not get admission form what percentage of students of institute B who did not get admission?
- (A) 45%
(B) 50%
(C) 30%
(D) Cannot be determined

18. Among the students who got admission in B-school 'x' in the given period, what is the ratio of the number of students who attended coaching at institute B, to that at the other two institutes?
 (A) 47 : 84 (B) 47 : 137
 (C) 45 : 67 (D) 47 : 91
19. How many students who attended coaching at institute B got admission in B-school 'x' in the given period?
 (A) 460 (B) 450
 (C) 500 (D) 470
20. The number of students who got admission in B-school 'x' in 2014 forms what percentage of the number of students who got admission in 2016?
 (A) 85.28
 (B) 83.78%
 (C) 80.36%
 (D) 78.29%

Key

Exercise – 2(a)

- | | | | | |
|------|--------|----------|-------|-------|
| 1. B | 5. C | 9. 10900 | 13. C | 17. D |
| 2. C | 6. 35 | 10. D | 14. D | 18. B |
| 3. D | 7. 80 | 11. B | 15. C | 19. D |
| 4. A | 8. 196 | 12. C | 16. C | 20. D |

Exercise – 2(b)

- | | | | | |
|------|------|----------|---------|-------|
| 1. D | 5. A | 9. A | 13. 115 | 17. D |
| 2. A | 6. D | 10. B | 14. 45 | 18. A |
| 3. C | 7. D | 11. 2004 | 15. 488 | 19. D |
| 4. D | 8. D | 12. 124 | 16. B | 20. B |