Pie-chart and Bar Graph

Career Launcher

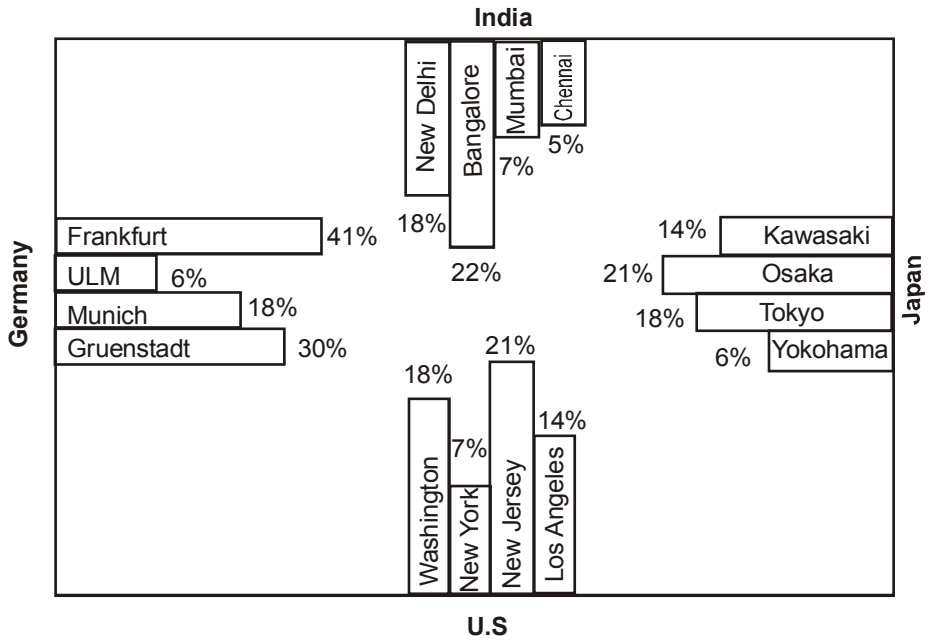
LRDI - 02

CEX-D-0274/18

Number of Questions : 30

Directions for questions 1 to 3: Answer the questions on the basis of the information given below.

The following graph mentions four cities each from four different countries along with the percentage contribution of those cities to the respective country's GDP. GDP of the given countries has the following order: US > Germany > Japan > India.



All questions pertain to the mentioned countries and cities only.

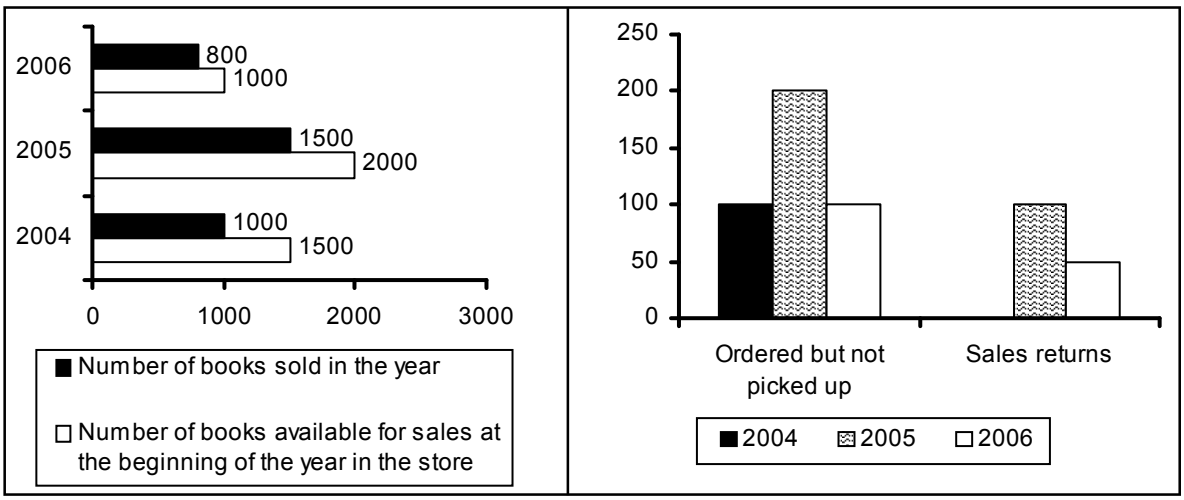
1. For how many countries, the given 4 cities contribute more than 50% but less than 60% of the GDP of that particular country?
(1) 0 (2) 1 (3) 2 (4) 3

2. If $GDP_{US} = 2\ GDP_{Germany} = 3\ GDP_{Japan} = 4\ GDP_{India}$, then how many cities have GDP greater than that of New Delhi?
(1) 9 (2) 10 (3) 11 (4) 12

3. The the number of cities whose contribution towards GDP of their respective country less than 10% be 'a' and that of those contributing more than 25% be 'b', then the value of a + b for the given countries put together is
(1) 4 (2) 5 (3) 6 (4) 7

Directions for questions 4 to 7: Answer the questions on the basis of the information given below.

The number of books in a store, number of books sold, number of books ordered but not picked up and number of books returned by the customers in previous years are shown in the figures given below for "Om Book Store" for three years 2004, 2005 and 2006. The store opened on 1st January 2004. The number of books sold in a year includes the books ordered but not picked up in that year. Net sales for an year is calculated based on the difference between the number of books sold and the number of the books returned in the year. 60% of the books ordered but not picked up, are picked up in the next year and the remaining in the year after that.
Number of books available for sales at the beginning of the year in store = (Unsold books from of last year + Books returned by the customers last year + Fresh purchases for the year). The fresh purchases for the year are made at the beginning of the year.



Number of books sold in a year does not include books from past years which are ordered in previous year(s) but not picked up.

4. How many units of books were picked up from the store in 2006?
(1) 860 (2) 800 (3) 810 (4) 960

5. Among the books available for sale, how many units of books were there lying in the store already and how many were fresh purchases in the beginning of the year 2006?
(1) 800, 200 (2) 740, 260 (3) 600, 400 (4) None of these

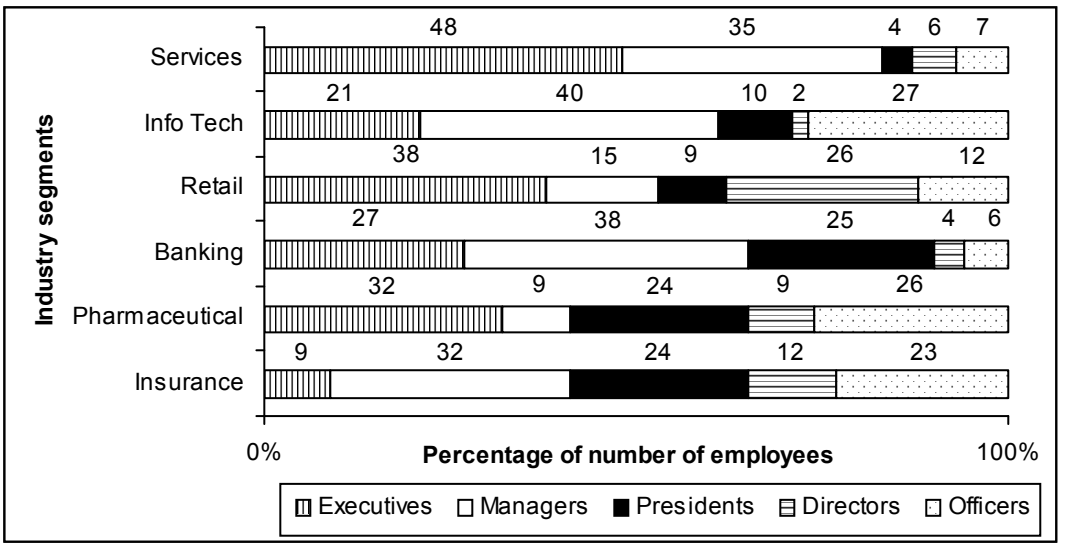
6. At the end of 2006, how many total units of books ordered were not picked up from the store?
(1) 140 (2) 180 (3) 220 (4) None of these

7. Total net sales of books (in units) of the store for the given three years is
(1) 3300 (2) 3150 (3) 2970 (4) 3200

Directions for questions 8 to 11: Answer the questions on the basis of the information given below.

The figure below shows the percentage break-up of the number of employees broken up according to their designations in six industry-segments viz. Services, Info Tech, Retail, Banking, Pharmaceutical and Insurance. The following additional information is available regarding the total number of employees in these segments:

I. The number of employees in Services is more than twice the number of employees in Retail.
II. The number of employees in Banking is equal to thrice the number of employees in Insurance.
III. The number of employees in Pharmaceutical is less than four times the number of employees in Info Tech.



8. The number of presidents in Services, as compared to Retail is
(1) greater (2) smaller
(3) greater or equal (4) cannot be determined

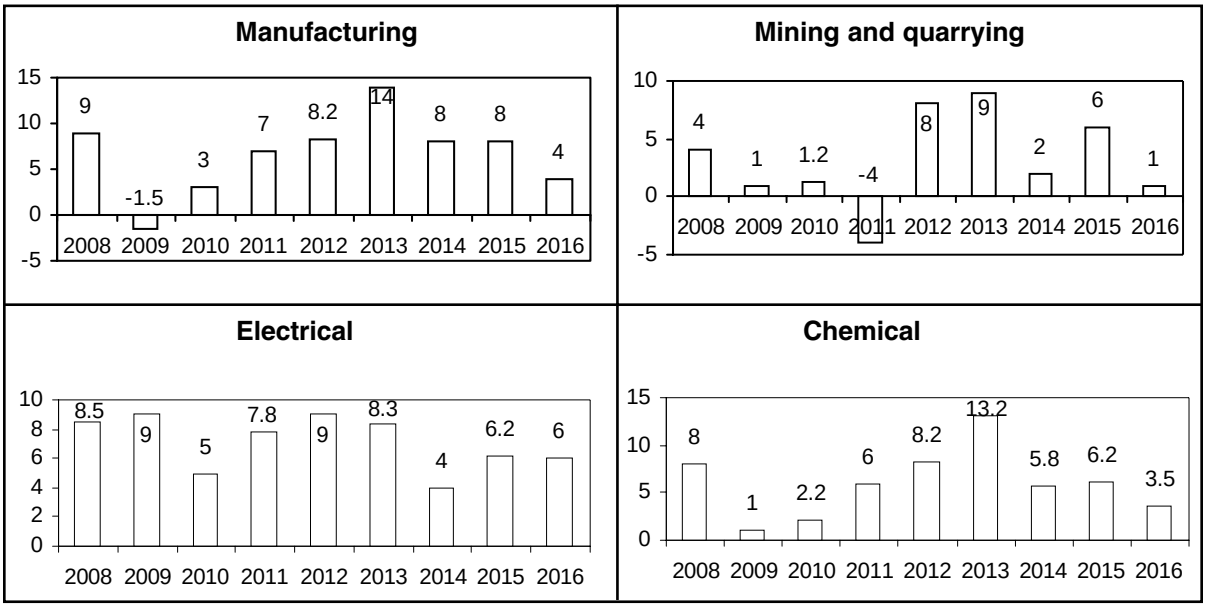
9. Which of the following are necessarily equal?
(1) Number of directors in Insurance and that in Banking.
(2) Number of managers in Pharmaceutical and that in Info Tech.
(3) Number of directors in Retail and that in Services.
(4) Number of executives in Banking and that in Insurance.

10. The number of executives in Pharmaceutical as compared to the number of directors in Info Tech is
(1) greater (2) smaller
(3) smaller or equal (4) cannot be determined

11. If the number of employees in Pharmaceutical and Services is equal, then the number of officers in the Retail as compared to the number of managers in Info Tech is
(1) greater (2) smaller (3) equal (4) smaller or equal

Directions for questions 12 to 15: Answer the questions on the basis of the information given below.

The figures below show the annual growth rate, expressed as percentage change with respect to the previous year, in four sectors of the economy of the Republic of Reposia during the 9-year period from 2008 to 2016. Assume that the index of production for each of the four sectors is set at 100 in 2007. Further, the four sectors: manufacturing, mining and quarrying, electricity, and chemicals, respectively, constituted 20%, 15%, 10% and 15% of total industrial production in 2007. Rest 40% was constituted by other sectors.



12. Which of the following sector witnessed the highest percentage growth from the period 2007 to 2016?
Fill 1 if "your answer is Manufacturing "
Fill 2 if "your answer is Mining and quarrying"
Fill 3 if "your answer is Electrical"
Fill 4 if "your answer is Chemical"

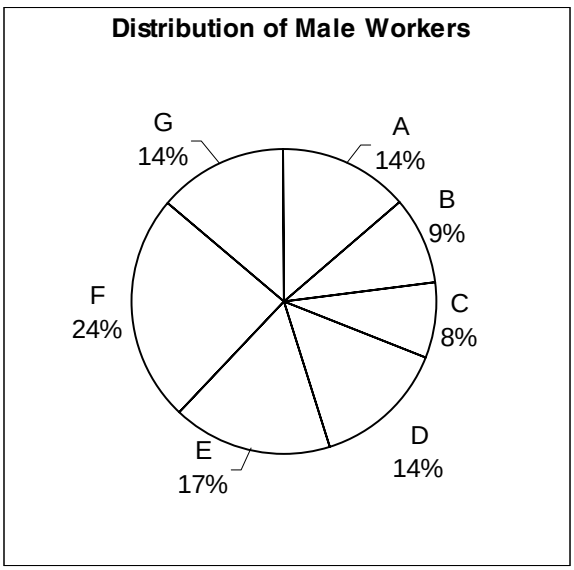
13. The overall growth rate in 2009 of the four sectors together was approximately
Fill 1 if "your answer is 10%"
Fill 2 if "your answer is 1%"
Fill 3 if "your answer is 2.5%"
Fill 4 if "your answer is 1.7%"

14. When was the highest level of production in the manufacturing sector achieved during the 9-year period 2008-2016?
Fill 1 if "your answer is 2016"
Fill 2 if "your answer is 2013"
Fill 3 if "your answer is 2008"
Fill 4 if "your answer is Cannot be determined"

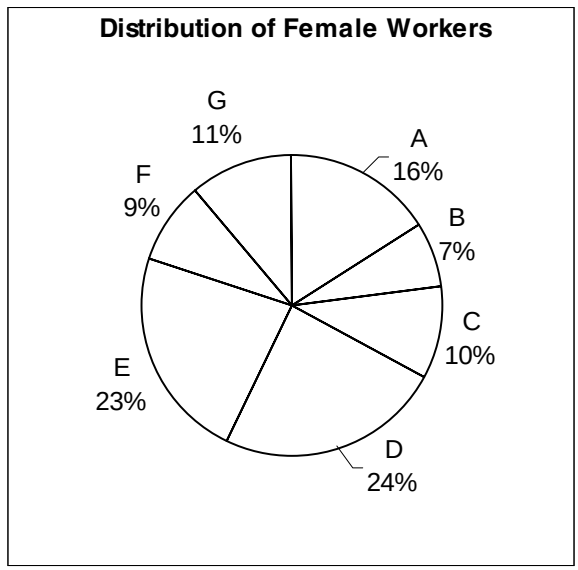
15. In which of the following year was the lowest level of production of the mining and quarrying sector achieved during the 9-year period 2008-16?
Fill 1 if "your answer is 2014"
Fill 2 if "your answer is 2011"
Fill 3 if "your answer is 2008"
Fill 4 if "your answer is 2009"

Directions for questions 16 to 18: Answer the following questions based on the given information.

The pie-charts given below illustrate the state wise distribution of male and female workers for 7 states – A, B, C, D, E, F and G – for the year 2015.



Total number of male workers = 24 lakhs



Total number of female workers = 18 lakhs

16. The number of female workers of state 'C' is what percentage of the total number of workers of that state (rounded off to the nearest integer)?
(1) 41% (2) 53% (3) 32% (4) 48%

17. What is the ratio of the number of male workers of states 'A' and 'B' together to the number of female workers of these two states together?
(1) 95 : 57 (2) 73 : 34 (3) 92 : 69 (4) 115 : 97

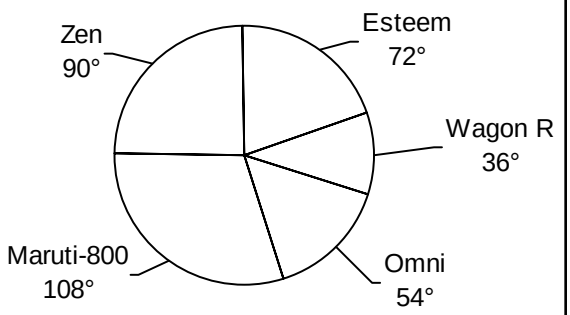
18. What is the ratio of the number of female workers of state 'G' to the number of male workers of State 'E'?
(1) 49 : 80 (2) 33 : 68 (3) 15 : 31 (4) 31 : 65

Directions for questions 19 to 22: Answer the questions on the basis of the information given below.

Maruti Udyog Ltd. manufactures only five models of cars namely Zen, Wagon R, Esteem, Maruti 800 and Omni. Following observations were made for the years 2015 and 2016.

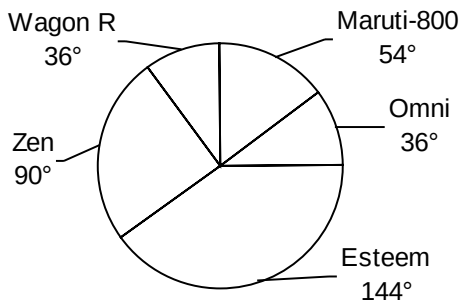
In 2015

Break-up of unit produced



Total units produced = 5000

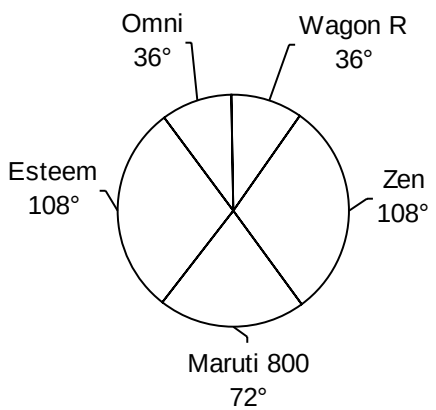
Break-up of revenue



Total revenue generated = Rs. 200,000,000

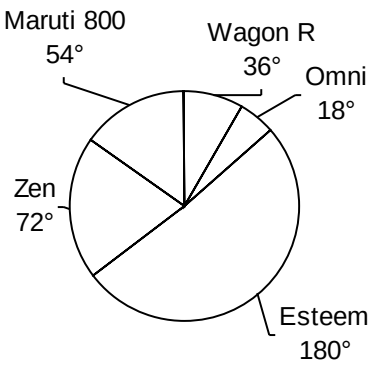
In 2016

Break-up of unit produced



Total units produced = 7000

Break-up of revenue



Total revenue generated = Rs. 400,000,000

19. Which was the costliest model manufactured by Maruti Udyog Ltd. in the year 2015?
(1) Wagon R (2) Esteem (3) Omni (4) Zen

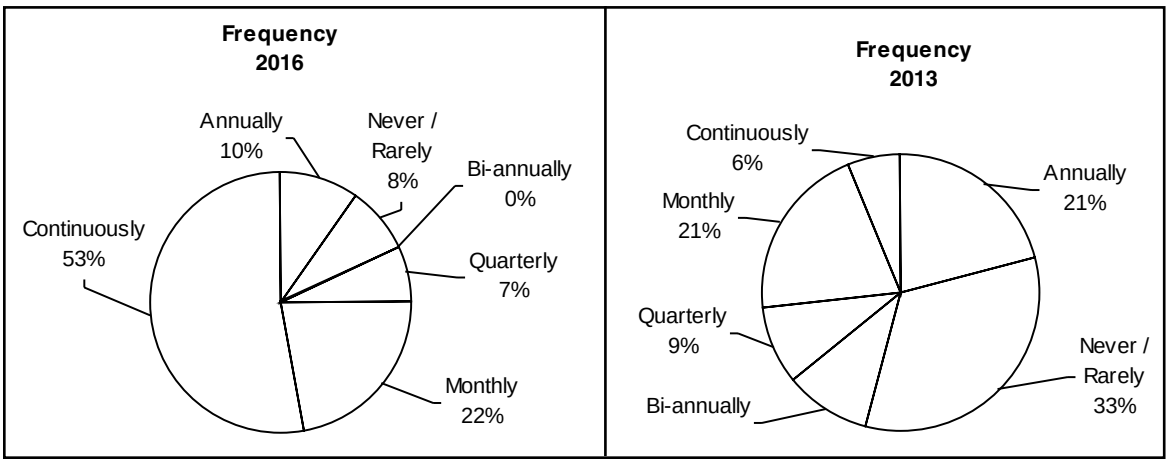
20. Which was the cheapest model manufactured by Maruti Udyog Ltd. in the year 2016?
(1) Omni (2) Maruti 800 (3) Wagon R (4) Zen

21. Which car generated the maximum revenue for Maruti Udyog Ltd. in the year 2016?
(1) Esteem (2) Wagon -R (3) Omni (4) Zen

22. From the year 2015 to 2016 which car observed the maximum growth rate in terms of units produced?
(1) Zen (2) Wagon - R (3) Maruti 800 (4) Esteem

Directions for questions 23 to 26: Answer the questions on the basis of the information given below.

Career Launcher India Ltd. had embarked upon an EPMS (Employee Performance Management System) project in 2013 and continued with it till 2016. The following charts indicate the response to the question "**How often does your company review reported data to measure performance?**", asked to all its employees. The employee strength of the company has increased from 28,700 in 2013 to 35,600 in 2016. The performance review frequencies considered here are — Continuously, Monthly, Quarterly, Annually, Bi-annually and Never / Rarely.



23. Which frequency has shown the second highest increase in the number of employees responding in favour of that frequency in 2016 as compared to 2013?
(1) Continuously (2) Monthly (3) Quarterly (4) Never / Rarely

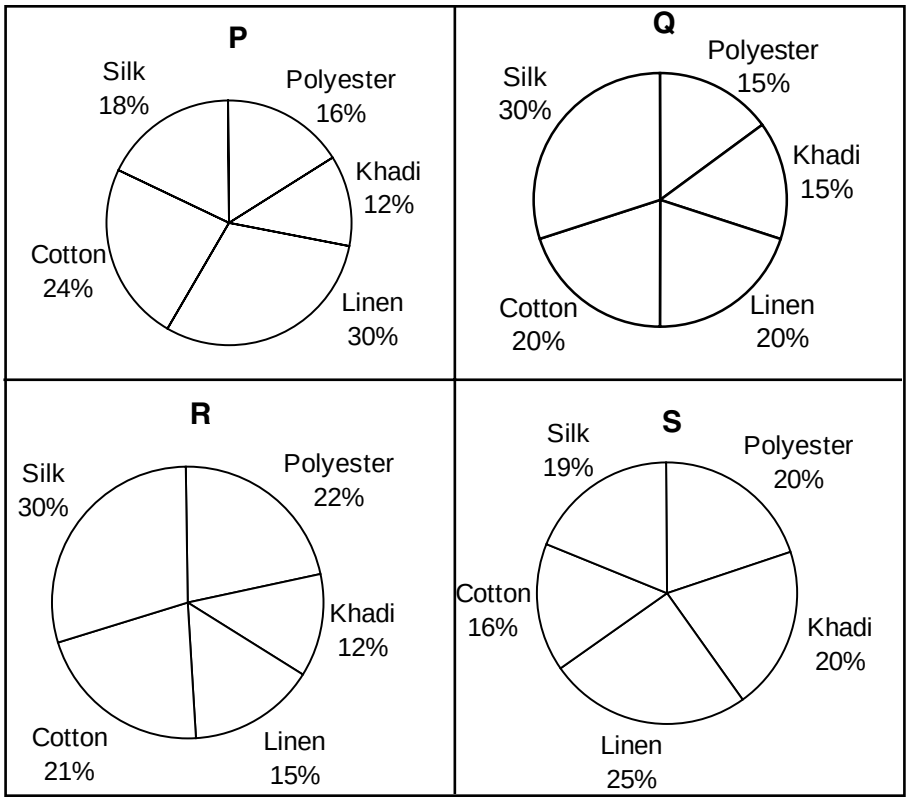
24. The project is considered to be successful if the number of employees that respond to the question (in 2016) with one of the following three frequencies — 'Continuously', 'Monthly' and 'Quarterly' is equal or more than the employee strength in 2013. Was the EPMS project successful?
(1) Yes (2) No
(3) May be (4) Depends upon new additions to 'Continuously' frequency

25. Which frequency recorded the minimum decrease in the number of respondents in favour of it from 2013 and 2016?
(1) Monthly (2) Quarterly (3) Annually (4) Bi-annually

26. What is the difference between the number of employees responding 'Annually', in 2013 and 2016?
(1) 2157 (2) 2467 (3) 2497 (4) 2557

Directions for questions 27 to 30: Answer the questions on the basis of the information given below:

There are only four companies viz. P, Q, R and S that manufacture shirts in the market. The shirts manufactured by these companies are made of one or the other of the five types of fabrics viz. Silk, Cotton, Linen, Khadi and Polyester. The following pie-charts provide information about the number of shirts of each of the types of fabrics manufactured by the company as a percentage of the total number of shirts manufactured by that company.



The following table provides information about the number of Linen shirts manufactured by each of the companies as a percentage of the total number of Linen shirts manufactured by all the companies.

P	Q	R	S
25.00%	25.00%	20.00%	30.00%

27. For which of the companies, the total number of shirts manufactured by it is the second largest among these companies?
(1) P (2) Q (3) R (4) S

28. What is the minimum possible number of shirts that should have been manufactured by all the companies taken together such that for each company, the number of shirts of each of the types of fabrics manufactured by it is an integer?
(1) 6925 (2) 5540 (3) 27700 (4) Cannot be determined

29. Each of the two companies Q and S sell each shirt manufactured by them at Rs.10 above their cost price. If the difference between the profit generated by both the companies is Rs.15000, then what is the difference between the number of Polyester shirts manufactured by the companies P and that by R? (Assume that all the shirts that are manufactured are sold.)
(1) 4800 (2) 1500 (3) 3000 (4) Cannot be determined

30. If the ratio of the profit generated on a sale of one Khadi shirt to the sale of one Cotton shirt by the company R is 3 : 4, then the ratio of the profit generated by the company R by selling all the Cotton shirts to the profit generated by selling all the Khadi shirts manufactured by it is
(1) 3 : 7 (2) 4 : 3 (3) 21 : 16 (4) None of these

LRDI - 02
Answers and Explanations

CEX-D-0274/18

1	3	**2**	3	**3**	4	**4**	1	**5**	3	**6**	2	**7**	2	**8**	4	**9**	1	**10**	4
11	2	**12**	3	**13**	4	**14**	1	**15**	2	**16**	4	**17**	3	**18**	2	**19**	2	**20**	1
21	1	**22**	4	**23**	2	**24**	1	**25**	2	**26**	2	**27**	2	**28**	3	**29**	1	**30**	4

1. 3 The required two countries are India and Japan.

2. 3 Cities having GDP greater than New Delhi are Bangalore (India)

Frankfurt, Munich, Gruenstadt] Germany — 3

Kawasaki, Osaka, Tokyo] Japan — 3

and all 4 cities of US.
∴ The answer is 11.

3. 4 a = 5
b = 2
∴ a + b = 7.

4. 1 (800 – 100) of 2006 + 120 of 2005 + 40 of 2004 = 860

5. 3 There are (2000 – 1500) = 500 from 2005 and 100 returned books from 2005. So number of books lying in the beginning of 2006 = (500 + 100) = 600.
∴ Fresh purchases = (1000 – 600) = 400

6. 2 40% of 2005 figure, i.e., 80.
And 100% of 2006 figure = 100.
Total = 180.

7. 2 800 + 1500 + 1000 – 100 (returned in 2005) – 50 (books returned in 2006) = 3150

For questions 8 to 11:
Let S (Services), R (Retail), B (Banking), I (Insurance), P (Pharmaceutical) and T (Info Tech) denote the total number of employees in these industry-segments.
Evidently (i) S > 2R, (ii) B = 3I and (iii) P < 4T

8. 4 Presidents in Services = 4% of S
Presidents in Retail = 9% of R
But, S > 2R, thus the relation cannot be determined.

9. 1 In option (1), directors in Insurance = 12% of I = 4% of B = directors in Banking. These two are necessarily equal.
In option (2), managers in Pharmaceutical = 9% of P < 40% of T = managers in Info Tech.
In option (3), directors in Retail = 26% of R, which could be equal to 6% of S = directors in Services.
In option (4), executives in Banking = 27% of B > 9% of I = executives in Insurance.

10. 4 Executives in Pharmaceutical = 32% of P
Directors in Info Tech = 2% of T.
Since P < 4T, the former can be greater, smaller or equal. Thus, relation cannot be determined.

11. 2 $P < 4T \Rightarrow T > 0.25P$

$S > 2R \Rightarrow R < 0.5S$

Here, it is given that P = S.
Hence, 2T > R
Labours in Retail = 12% of R
Managers in Info Tech = 40% of T.
Since 2T > R, the former is lesser than the latter.

12. 3 From the graph it can be seen that the required sector is electrical.

13. 4 First we will find out the growth in 2008 of the all four sectors. So, for manufacturing it is 9% of 20 + 20 = 21.8. Similarly, for mining and quarrying it is 15.6.
For electrical, it is 10.85 and for chemical it is 16.1. Now, in 2009, there is 1% negative growth in manufacturing. So 1% of 21.8 becomes 0.218. Thus, 21.8 – 0.218 = 21.582. Similarly, for mining and quarrying it is 15.44. For electrical it is 11.88 and for chemical it is 16.21.
Now, we add the figures for 2009 of all the sectors which is (21.582 + 15.75 + 11.88 + 16.21)
= 65.42. Now, 65.42 – 64.35 = 1.07 which comes to approximately 1.7% growth rate.

14. 1 From the graph it can be seen that the required year is 2016.

15. 2 In 2008, there is 4% growth and 4% of 15 = 0.6. So, weightage in 2008 becomes 15.6.
Similarly, in 2009 it becomes 15.44, in 1992 it is 15.6, in 1993 it is 14.97, in 1994 it is 16.16.
Hence, it can be seen that the lowest level of production was in 2011.

16. 4 Ratio of total population of male to that of female = 4 : 3.

The required percentage = $\frac{10\times3}{10\times3+8\times4} \approx 48.$

17. 3 Male workers of state A + male workers of State B = 14% of 24 lakh + 9% of 24 lakh

$= \frac{14}{100}\times2400000 + \frac{9}{100}\times2400000 = 336000 + 216000 = 552000$

Similarly the female workers of state A + female workers of state B = 16% of 18 lakh + 7% of 18 lakh

$= \frac{16}{100}\times1800000 + \frac{7}{100}\times1800000 = 288000 + 126000 = 414000$

$\therefore$ The ratio of male workers of state A and B taken together and the female workers of these two states

$= \frac{552000}{414000} = \frac{92}{69}.$

18. 2 Female workers of state G = 11% of 18 lakh $= \frac{11}{100} \times 1800000 = 198000$

Male workers of state E = 17% of 24 lakh $= \frac{17}{100} \times 2400000 = 408000$

Hence the required ratio $= \frac{198000}{408000} = \frac{33}{68}$.

For questions 19 to 22:

	2004		2005	
Car	**Revenue**	**Uniits**	**Revenue**	**Units**
Zen	500,00,000	1250	800,00,000	2100
Esteem	800,00,000	1000	2000,00,000	2100
Wagon R	200,00,000	500	400,00,000	700
Omni	200,00,000	750	200,00,000	700
Maruti 800	300,00,000	1500	600,00,000	1400

19. 2 Per unit cost of Wagon R in 2015 = 200,00,000/500 = Rs. 40,000
Per unit cost of Esteem in 2015 = 800,00,000/1000 = Rs. 80,000
Per unit cost of Omni in 2015 = 200,00,000/750 = Rs. 26,666
Per unit cost of Zen in 2015 = 500,00,000/1250 = Rs. 40,000
Thus, Esteem is the costliest model.

20. 1 Per unit cost of Omni in 2016 = 200,00,000/2100 = Rs. 9523
Per unit cost of Maruti-800 in 2016 = 600,00,000/1400 = Rs. 42857
Per unit cost of Wagon R in 2016 = 400,00,000/700 = Rs. 57142
Per unit cost of Zen in 2016 = 800,00,000/2100 = Rs. 38095
Thus, Omni is the cheapest model.

21. 1 As the central angle for Esteem is the largest. Thus, the maximum revenue for Maruti Udyog was generated through it.

22. 4 It is clearly evident from the given table that the production of Esteem becomes more than twice during the given period.

23. 2 'Monthly' is the only frequency that registered an increase in 2016 (over 2013), other than 'Continuously'.

24. 1 The employee strength in 2004 was 28,700. This is just more than 80% of the employee strength in 2007 which is 35,600. If we add up the percentage responses of continuously, monthly and quarterly in 2007, we get 82%. Hence, the project was successful.

25. 2 For 'Quarterly', the number of respondents changed from 2583 in 2004 to 2492 in 2007.

26. 2 Required number = (21% of 28700 – 10% of 35600) = 2467.

27. 2 Let the total number of Linen shirts manufactured by all the given companies be X.

Therefore, the number of Linen shirts manufactured by the companies P, Q, R and S is $\frac{X}{4}, \frac{X}{4}, \frac{X}{5}$ and $\frac{3X}{10}$ respectively.

Therefore, the total number of shirts manufactured by the companies P, Q, R and S is $\frac{5X}{6}, \frac{5X}{4}, \frac{4X}{3}$ and $\frac{6X}{5}$ respectively.

The total number of shirts manufactured by the company Q is the second largest.

28. 3 Assume that the total number of Linen shirts manufactured by all the companies is 100.
Therefore, the total number of Linen shirts manufactured by the companies P, Q, R and S is 25, 25, 20 and 30 respectively.
The following table lists down the number of shirts of each type of cloth manufactured by each of the companies, when the total number of Linen shirts manufactured is 100.

Company	Silk	Cotton	Linen	Khadi	Polyester	Total
P	15	20	25	10	13.33	83.33
Q	37.5	25	25	18.75	18.75	125
R	40	28	20	16	29.33	133.33
S	22.8	19.2	30	24	24	120

Therefore, for the number of shirts, of each type of cloth, to be an integer we need to convert all the fractional values in the table to integers.
In order to do so, we need to multiply the entries for P with 3, the entries for Q with 4, the entries for R with 3 and the entries for S with 5. So, if we multiply all the entries with the l.c.m of 3, 4, 3 and 5, that will do the needful.
$\therefore$ Minimum possible number of shirts manufactured by all the companies taken together
$= (83.33 + 125 + 133.33 + 120) \times (3 \times 4 \times 5) = 27700.$

29. 1 Let the total number of Linen shirts manufactured by all the given companies be X.

Therefore, the number of Linen shirts manufactured by the companies P, Q, R and S is $\frac{X}{4}, \frac{X}{4}, \frac{X}{5}$ and $\frac{3X}{10}$ respectively.

The number of shirts manufactured by the companies Q and S is $\frac{5X}{4}$ and $\frac{6X}{5}$ respectively.

Given that the difference between the profit generated by the companies Q and S is Rs.15000.

Difference in the profit generated by the two companies Q and S will give $\frac{5X}{4} - \frac{6X}{5} = \frac{X}{20} = \frac{15000}{10} = 1500.$

$\Rightarrow X = 30{,}000$

Difference between the number of Poleyster shirts manufactured by the companies P and R is

$$\left(\frac{22}{100} \times \frac{4X}{3}\right) - \left(\frac{16}{100} \times \frac{5X}{6}\right) = \frac{4X}{25} = \frac{(4 \times 30{,}000)}{25} = 4800.$$

30. 4 Let the profit per Khadi shirt and per Cotton shirt be 3y and 4y respectively.

$\therefore$ The required ratio = $\frac{4y \times 21}{3y \times 12} = 7:3.$