Section – IV

Directions for questions 101 to 103: The following table gives the price data for 2003 of different pack sizes for all different brands of toothpastes available in the 4 cites of India — Delhi, Mumbai, Kolkata, Chennai

PRICE WATCH : TOOTH PASTE					
Brand	**Weight**	**MRP (Rs.)**			
Name	**(gms)**	**Mumbai**	**Delhi**	**Kolkata**	**Chennai**
Anchor White	50	10	10	10	10
Anchor White	200	35	NA	28	30
Aquafresh	50	NA	NA	18	19
Babool	50	10	NA	10	8
Babool	200	30	35	34	34
Babool (Double pack)	200 + 200	57	55	51	53
Cibaca	50	8	10	9	9
Cibaca	200	31	35	29	35
Close up Gel (BLUE)	50	12.5	12.5	18	12
Close up Gel (BLUE)	200	42	42	42	42
Close up Gel (GREEN)	50	12.5	NA	NA	12
Close up Gel (GREEN)	150	42	42	42	47
Close up Gel (RED)	50	12.5	12.5	12.5	12.5
Close up Gel (RED)	200	42	42	42	42
Close up Gel (Lemon mint)	150	49	NA	49	47
Close up Lemon mint	50	12.5	12.5	12.5	13
Close up Lemon mint	200	47	50	49	50
Colgate Calciquard	50	12.5	12.5	15	12.5
Colgate Dental Cream	50	12.5	12.5	12	11
Colgate Dental Cream	100	25	25	25	24
Colgate Dental Cream	200	45	45	40	40
Colgate Freshstripe	50	12.5	12.5	12.5	12.5
Colgate Freshstripe	200	53.5	42	42	42
Colgate Gel	50	12.5	12.5	12	12.5
Colgate Gel	200	52	53	61.5	62.5
Colgate Herbal	50	12.5	12.5	13.5	12.5
Colgate Herbal	100	20	25	25	25
Colgate Herbal	200	51.5	45	49	45
Colgate Total	50	17	19	19	19
Colgate Total	100	38	38	38	38
Colgate Total	200	60	51	51.5	51.5
Meswak	50	17	17	18	15
Meswak	200	60	60	56	56
Neem	50	15	NA	15	15
Neem	200	48	50	50	50
Pepsodent 2 - in 1	50	18	17.5	17	20
Pepsodent 2 - in 1	200	40	40	40	42
Pepsodent Germicheck	50	10	10	10	10
Pepsodent Germicheck	200	38	40	38	40
Promise Gel	50	NA	NA	12	15

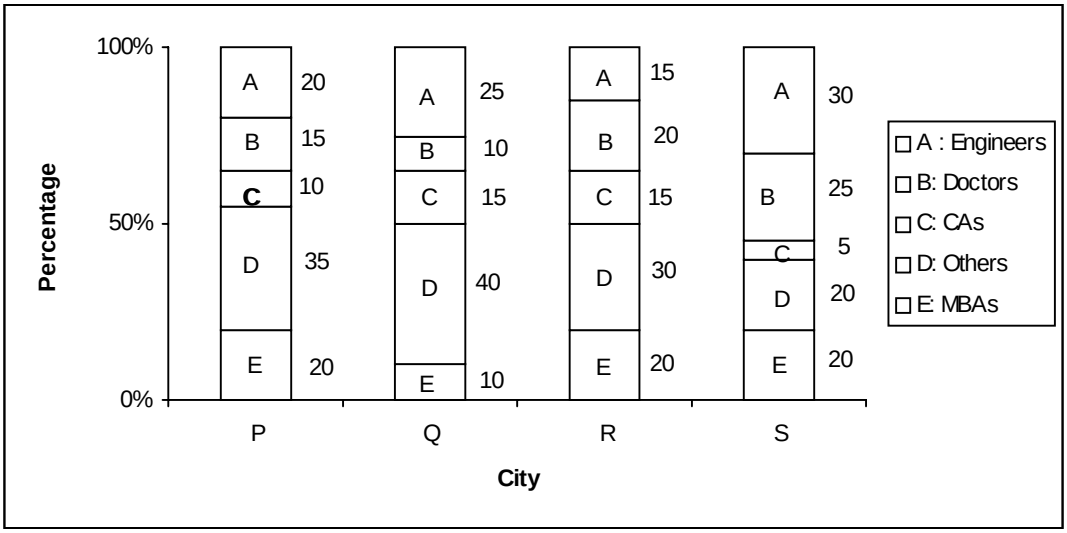
NA — The particular pack size is not available for sale in that city

101. Which 200 gm toothpaste costs maximum and in which city of India? (ignore the NA prices)
a. Meswak, Mumbai and Delhi
b. Colgate Gel, Chennai
c. Close up Lemon mint, Mumbai and Kolkata
d. None of these

102. Which 50 gm tooth paste is cheapest and in which city of India? (ignore the NA prices)
a. Cibaca, Mumbai
b. Babool, Chennai
c. Cibaca, Kolkata and Chennai
d. Both (a) and (b)

103. Which toothpaste brand, in which pack size and in which city is the costliest (among the brands, pack sizes and cities given) in Rs./gm terms?
a. Colgate Gel, 200 gms, Chennai
b. Aquafresh, 50 gms, Chennai
c. Pepsodent 2-in-1, 50 gm, Chennai
d. None of these

Directions for questions 104 to 108: Answer the questions based on the following information.
Following chart shows the percentage of Engineers, Doctors, CA, MBA and Others in city P, Q, R, S.



104. What is the overall percentage of CAs in city Q and S?
a. 15%
b. 25%
c. 10%
d. Cannot be determined

105. What is the overall percentage of MBA's in city P and S?
a. 15%
b. 20%
c. 30%
d. Cannot be determined

Additional direction for questions 106 to 108: Answer the questions based on the following additional information.

The ratio of the population of four given city P, Q, R and S is 1 : 2 : 3 : 4 respectively.

106. In which of the following city is the population of CA's maximum in number?
a. P
b. Q
c. R
d. S

107. Out of Engineers, Doctors, CA's and MBA's whose population is maximum in all 4 given cities?
a. Engineers
b. Doctors
c. CA's
d. MBA's

108. If 10% of others in P are Architect
20% of others in Q are Architect
30% of others in R are Architect and
40% of others in S are Architect
What is the percentage population of Architect in all 4 given cities combined?
a. 3.65% b. 2.85% c. 7.85% d. 11.65%

Directions for questions 109 to 111: Answer the questions based on the following information.

The pie charts give the data for year 2003, of a shirt manufacturing company 'XYZ' that exports shirts to Europe. A, B, C, D and E are different brands of shirts exported by company 'XYZ' to Europe.

Figure 1 gives the percentage breakup of the (brand wise) of the quantity of shirts exported to Europe while figure 2 gives the percentage breakup (brand wise) of the value of exported shirts to Europe by the company 'XYZ'.

Figure 1

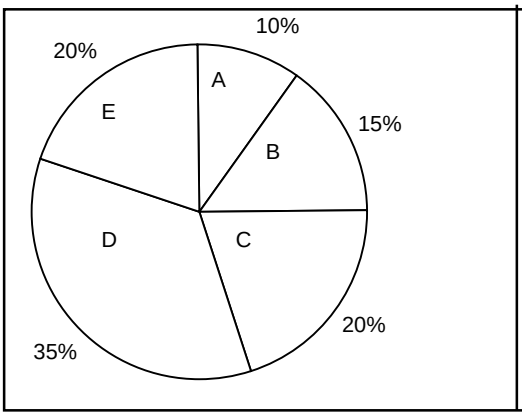
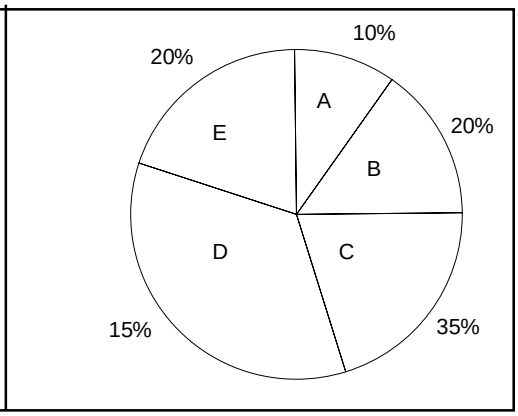


Figure 2



The company 'XYZ' exported 5000 units of shirts of these 5 brands to Europe in 2003. The value of exports of these shirts in 2003 was USD 100,000.

109. Which of the following brands of shirts of company 'XYZ' has the minimum export price per unit in 2003?
a. A b. B c. D d. E

110. Which is the correct order of price per unit of shirts exported by the company 'XYZ' to Europe in 2003?
a. A > B > C b. C > B > A c. B > A > C d. C > A > B

111. If USD 1 = Rs. 45, what is the average price per shirt in Rupees by the company 'XYZ' in 2003?
a. Rs. 900 b. Rs. 450 c. Rs. 750 d. Cannot be determined

Directions for questions 112 to 116: Answer the question based on the following information.
The figures in the table shows the share prices (in Rupees) of 10 different companies in DSE on five days of a particular week. DSE does not work on Saturday and Sunday.

Company	Share price (in Rupees)				
	Monday	Tuesday	Wednesday	Thursday	Friday
ACC	308	313	316	309	305
BHEL	685	663	696	689	721
CMC	725	729	731	735	743
DCM	285	281	280	284	283
DSQ	325	324	323	324	324
HLL	245	249	257	241	256
ICICI	352	372	395	401	405
LIC	249	245	247	244	126
MTNL	166	174	181	192	199
VSNL	210	209	207	211	215

112. How many companies have registered continuous growth in share price in the 5 days of the given week?
a. 2 b. 3 c. 4 d. 5

113. Which of the 10 companies has shown the maximum increase in Rupee value of its share price over the previous day and any given day of the given week?
a. ICICI, Tuesday b. BHEL, Wednesday
c. ICICI, Wednesday d. None of these

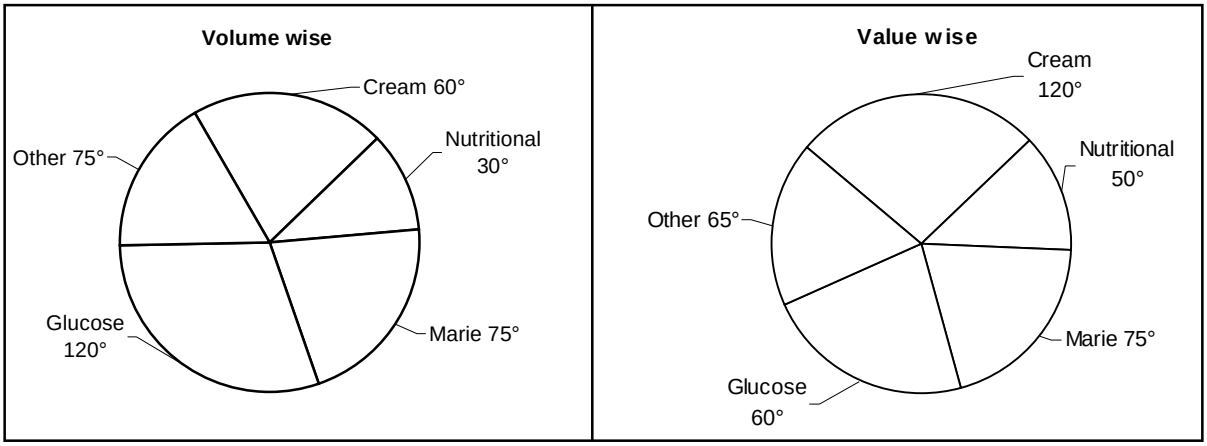
114. If Sensex for a particular day is defined as the sum of the share price of the given 10 companies on that day, then what is the difference between the value of the Sensex on Friday and Monday on the given week?
a. Rs. 93 b. Rs. 69 c. Rs. 47 d. Rs. 27

115. Which of the following company has shown the minimum percentage deviation in share prices from Monday to Friday in the given week?
a. ACC b. DCM c. DSQ d. LIC

116. In the given week, Mr. Dilshad Mehta bought 100 shares of CMC on Tuesday, 100 shares of HLL on Wednesday, 100 shares of ICICI on Monday and sold all these shares on Friday. How much profit did he earn?
a. Rs. 6500 b. Rs. 6600 c. Rs.6700 d. None of these

Directions for questions 117 to 120: Answer the questions based on the following information.

Sales breakup of biscuits category wise for B.I. Ltd. (Southern Region)



The above charts show the sales break-up of different categories of biscuits sold by B.I. Ltd. in the year 2003-04 in the southern region of India. The biscuits are categorised into the following groups — Glucose, Marie, Nutritional, Cream and others.
The total sales in 2003-04 of biscuits in the southern region was 200,000 kgs valued at Rs. 80 lakhs.

117. If B.I. Ltd. increased its value wise market share in 2003-04 by 22.5% in southern region over the previous year, find the sales volume of B.I. Ltd. in the southern region for the year 2002-03. (Assume that the average price of biscuits produced by B.I. Ltd. remain same for both years)
a. 1,82,750 kgs b. 1,63,260 kgs c. 1,52,635 kgs d. Data insufficient

118. In 2003-04, B.I. Ltd. has the highest market share (in terms of volume) in the southern region, among the four regions of the country. If B.I. Ltd. sells 33% of its all-India sales volume in the southern region, find the sales volume (in kgs) for B.I. Ltd. in the western region of India.
a. 600,000 kgs b. 66,667 kgs c. 125,000 kgs d. Data insufficient

119. The overall biscuits sales in India grew by 3.5% (by value) in 2003-04 over the previous year. B.I. Ltd. contributed to 12% of the all-India sales of biscuits (by value) in the year 2003-04. Find the all-India biscuit sales (by value) for the year 2002-03. (Using the data from question 118).
a. Rs. 690 lakhs b. Rs. 1,932 lakhs c. Rs. 1,032 lakhs d. Data insufficient

120. Arrange the selling price per kg for each category of biscuits sold by B.I. Ltd. in the ascending order for the year 2003-04 in the southern region of India.
a. Cream > Nutritional > Marie > Glucose > Others
b. Cream > Nutritional > Others > Marie > Glucose
c. Cream > Nutritional > Marie > Others > Glucose
d. None of these

Directions for questions 121 to 125: Answer the questions based on the following information.
The scorebook of a match between India and Pakistan in Coca-Cola Trophy final is reproduced below for the Indian innings of 50 overs. India won the toss and elected to bat. The details for India's batsmen are given below.

Batting Chart					
S. No.	**Name**	**Scoring details**	**Total balls faced**	**How out**	**Total runs scored**
1.	V. Sehwag	**….1..4…1..3….4…2.12 4.1112..2.W**	39	b Akhtar	29
2.	S. Ganguly	**.1…1….2…1…..W**	21	c Haq b Sami	5
3.	Md. Kaif	**4..1.121114.2…112 211142..1111214W**	35	c Khan b Sami	43
4.	R. Dravid	**…1…1…2…..4… ..2..111….2..2… ….4..444..111.2. ….23..4..6..416. ..4.**	80	Not out	71
5.	V. V. S. Laxman	**.1….2..2..4..1…1 1..2..1.2.11111.2 .1.2.1……2..11 .W**	56	c & b Afridi	32
6.	Y. Singh	**.2.1.1…1..1.1.1 ..3.2.4.464..111 21…111.4.4..2. ..2.3…W**	55	c Akhtar b Afridi	55
7.	D. Karthik	**…1.22112121.. .4.1111..2.4..**	29	Not out	27

Extras:	**No-ball**	~~IIII~~ II	7
28	**Wides**	~~IIII~~ III	8
	Leg-bye	~~IIII~~ IIII	9
	Byes	IIII	4
Total Score:	**290 for 5 in 50.0 overs**		

The details for Pakistan's bowlers are given below:

Bowling chart							
Sl. No.	**Name**	**Overs**	**Maidens**	**Runs**	**Wickets**	**No-balls**	**Wides**
1.	**Md. Sami**	10	0	42	2	2	3
2.	**Shoaib Akhtar**	10	0	68	1	5	4
3.	**Abdul Razzaq**	10	1	32	0	0	0
4.	**Shoaib Malik**	10	0	57	0	0	1
5.	**Shahid Afridi**	10	1	78	2	0	0

Batsman's strike rate = $\frac{\text{Total number of runs scored}}{\text{Total balls faced}}$

Bowler's strike rate = $\frac{\text{Number of runs}}{\text{Number of wickets}}$

(If the bowler does not take any wicket, strike rate = twice the number of runs given away by the bowlers).

Bowler's economy rate = $\frac{\text{Number of runs}}{\text{Number of overs}}$

Please note that in the batting chart under the column scoring details, each dot (.) represents a ball faced by a batsman in which he scores no runs. Each digit scored in this column represents the runs scored by the batsman on that ball.

A 'W' indicates a ball in which the batsmen got out. Extras are runs not scored by batsmen.

121. How many boundaries (a ball in which 4 runs are scored) were scored during the 50 overs of the Indian innings in Coca-Cola Trophy final?
a. 21 b. 22 c. 23 d. None of these

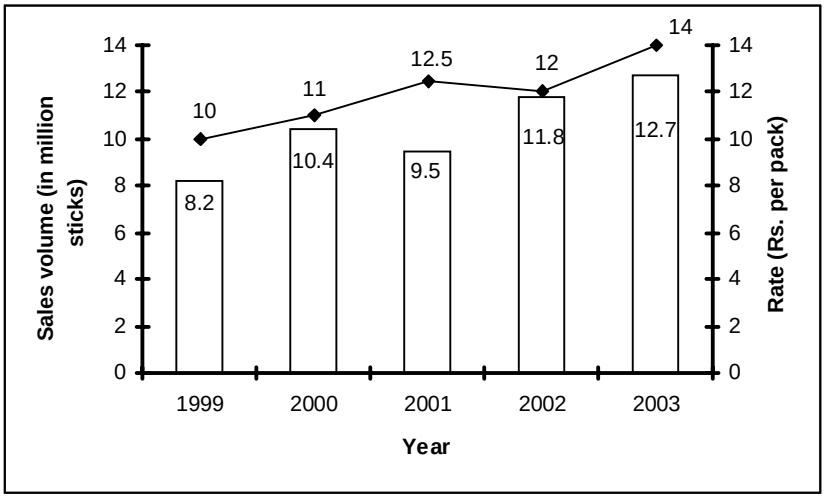
122. Which of the following Indian batsman had the second highest strike rate in the 50 overs of the innings in Coca-Cola Trophy final?
a. Y. Singh b. D. Karthik c. R. Dravid d. V. Sehwag

123. If Pakistan's bowlers are ranked 1 to 5 in ascending order of their economy rates (lowest runs per over to highest) and also ranked (1 to 5) in descending order of their strike rates (highest run per wicket to lowest), find the Pakistani bowler who has the maximum difference in ranks between the two ranking systems in Coca-Cola Trophy final?
a. Shahid Afridi b. Md. Sami c. Shoaib Akhtar d. Data insufficient

124. What percentage of the total number of balls in the 50-over Indian innings was played by R. Dravid in Coca-Cola Trophy final?
a. 26.7% b. 25.4% c. 24% d. None of these

125. If the net run-rate is defined as the ratio of the total runs scored by the batsmen and the total balls faced by the batsmen, find the net run-rate of the 50-over Indian innings in Coca-Cola Trophy final.
a. 0.97 b. 0.92 c. 0.83 d. 0.87

Directions for questions 126 to 130: The below chart shows the sales data for brand "XX" of cigarette produced by the company TIC Ltd. for the period 1999 to 2003. The bar-chart indicates sales volume (in million sticks). The line chart indicates price of Brand "XX". (in Rs. per pack) for the same period. A pack of brand "XX" cigarette consists of 10 sticks.



126. Which year saw the highest annual percentage growth over the previous year in sales value of brand "XX" of TIC Ltd. during the period (1999-2003)?
a. 2003 b. 2002 c. 2001 d. 2000

127. What is the average annual growth rate for the period 1999-2003 in the total sales volume of cigarettes sold by TIC Ltd, if brand "XX" contributed to 30% of the total sales volume of cigarettes sold by TIC Ltd. in 2003?
a. 16.67% b. 20% c. 25% d. Data insufficient.

128. What is average annual percentage increase in rate per pack of brand "XX" cigarettes during the period 1999 to 2003?
a. 5.0% b. 7.5% c. 10.0% d. 12.5%

Additional directions for questions 129 and 130: Answer the questions based on the following additional information.
The total sales of cigarettes was 265 million sticks in 2003 and TIC Ltd had a total market share (by volume) of 21.5% in 2003. TIC Ltd sold only cigarettes and its revenue from sale of cigarettes was Rs. 10.5 crores in 2003.

129. What is the average rate per pack of all brands of cigarettes sold by TIC Ltd. in 2003?
a. Rs. 82.67 b. Rs. 18.40 c. Rs. 14.00 d. Rs. 1.80

130. If the average rate per pack of cigarette sold by TIC Ltd is the same as the average rate per pack of cigarette sold in 2003. What was the market share (by value) of TIC Ltd of cigarette sales in 2003? (Assume data from question 129)

a. 22.5 % b. 25.0% c. 21.5% d. 20.0%

Directions for questions 131 to 135: Each question consists of four statements, A,B, C and D.

Choose

a. If exactly one of these is true.
b. If exactly two of these are true.
c. If exactly three of these are true.
d. If all four are true.

131. A. Area of a rectangle in a circle is maximum when it is a square.

B. Sum of first (n – 3) natural numbers is $\frac{n^2 - 5n + 6}{2}$, where n is a natural number.

C. 50! have 20 consecutive zeros at the end.

D. The equation $x^2 - 9x + 21 = 0$ has no real root.

132. A. $\log_b a \cdot \log_c b \cdot \log_a c = 1$

B. $3^{\sqrt{\log_3 7}} = 7^{\sqrt{\log_7 3}}$

C. 12 has 5 factors.

D. If 26% students in class XIIth are girls then minimum no. of students in class is 65.

133. A. The straight lines represented by x + y = 1 and x = y meet at (1, 1).

B. Maximum area of a triangle with constant perimeter is an equilateral triangle.

C. Roots of equation $x^2 - 4x + 3 = 0$ are 1 and 3.

D. P ! – (P – 1) ! = P (P – 1)!, for all integral values of P.

134. A. Equation of the straight line passing through (2, -3) and parallel to y-axis is y = –3.

B. Two distinct tangents can be drawn from (8,6) to the circle $x^2 + y^2 - 100 = 0$

C. A polygon has 44 diagonals, then the number of its sides are 11.

D. Roots of $x^3 - 3x^2 + 5 = 0$ are 2, 3 and 5.

135. A. $a^2 > b^2$ if a >b

B. $a^3 > b^3$ if a >b

C. $\frac{1}{a} > \frac{1}{b}$ if a > b

D. (a + b) > (a – b) if a > b

Directions for questions 136 to 140: Each question consists of two statements, I and II.

Choose

a. If one of the two statements (I or II) alone is sufficient to answer the question, but cannot be answered by using the other statement alone.
b. If each statement alone is sufficient to answer the question asked.
c. If I and II together are sufficient to answer the question but neither statement alone is sufficient.
d. If even I and II together are not sufficient to answer the question.

136. Four friends A, B, C, D want to go from a place P to another place Q but by different vehicles — bus, motorbike, auto and bicycle (not in that order). B travels by a bus. Who travels by an auto?
I. C doesn't travel by a bicycle.
II. A doesn't travel by an auto.

137. Is $pq > 10$ where p, q are integers?
I. $2 < q < 6$
II. $5p > 24$

138. If X and Y are integers (each of two digits), between 10 and 99 (both inclusive), is $\frac{(X - Y)}{9}$ an integer?
I. X and Y have the same two digits, but in reverse order.
II. The tens' digit of X is 2 more than the units' digit, and the tens' digit of Y is 2 less than the units' digit.

139. How many books does Gautam have?
I. No. of books Gautam has is less than the square root of 100
II. The number of books Gautam has, is divisible by both 2 and 3.

140. There are 100 houses in a colony each having at least one of the appliances — TV set, VCR, Radio. How many of them have only TV sets, if 50 houses have TV sets?
I. 15 houses have both TV set and VCR.
II 15 houses have both TV set and Radio.