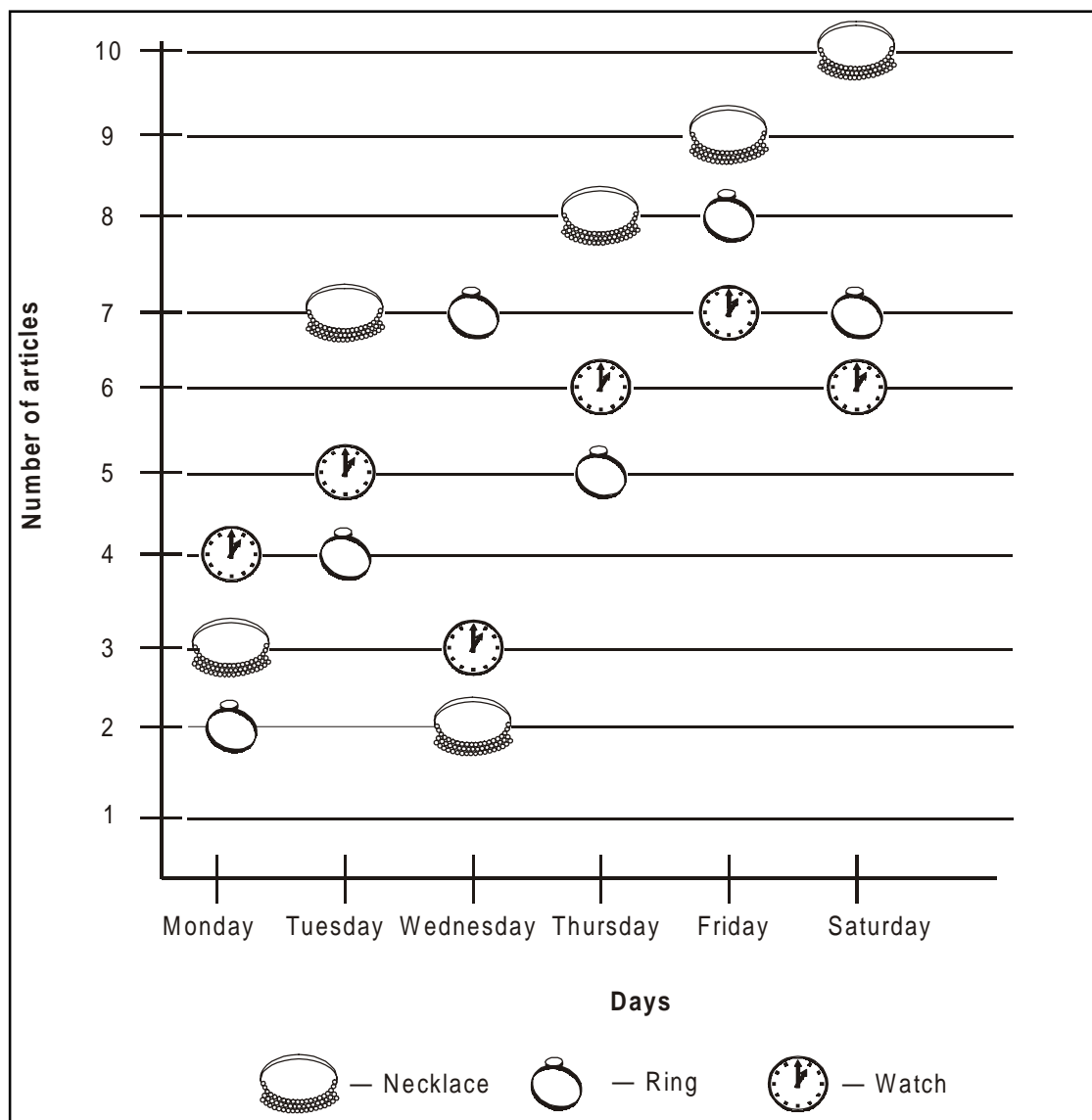


Section – IV

Direction for questions 126 to 128: Study the chart given below and then answer the questions that follow.

The chart gives the number of 3 different types of articles sold during the different working days of the week in a particular shop. The shop sold only these 3 types of articles — necklace, ring and watch.



126. How many articles in total were sold in the working days of the week in the shop?
a. 99 b. 103 c. 105 d. 107
127. On which day of the week, maximum number of articles were sold in the shop?
a. Friday b. Saturday c. Tuesday d. Wednesday

128. How many necklaces and watches were sold in the shop on Friday and Saturday?
- a. 31 b. 32 c. 33 d. 34

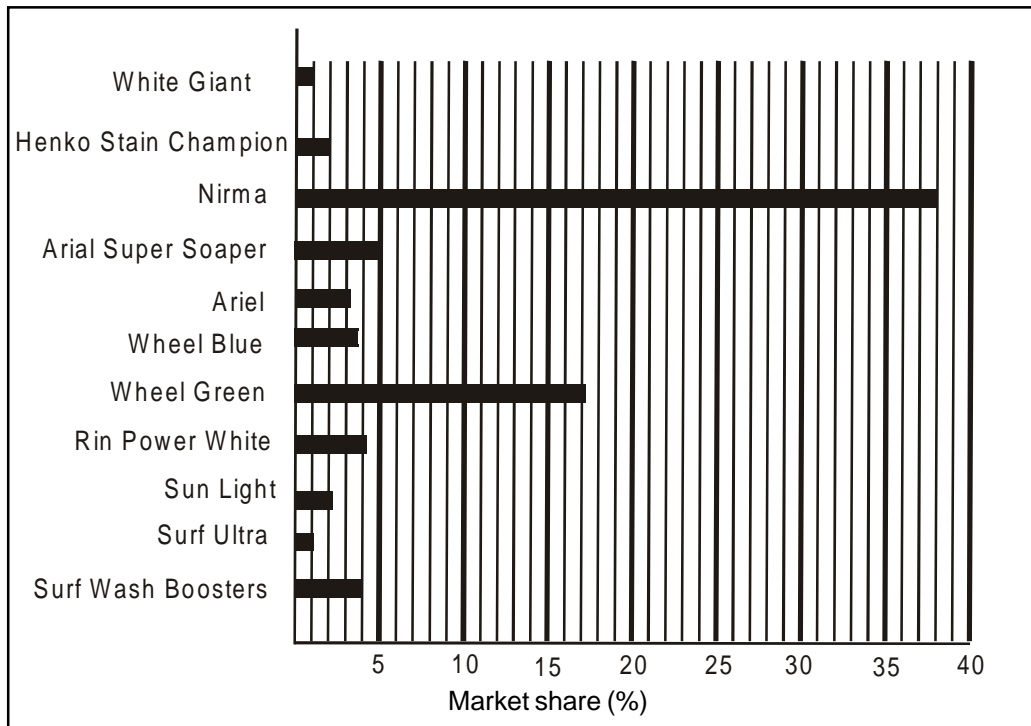
Derections for questions 129 to 132: Answer the questions based on data given below.

In 1997, the detergent market in India consisted of only the companies and their respective brands as given in table below. The table depicts the percentage change in sales value of various brands over the previous year's sales value. The change in the table with '–' sign indicates decrease in sales value as compared to previous year and '+' sign indicates increase in sales value as compared to previous year.

% change over previous year's sale value		
Companies	Brands	% change
1) Hindustan Lever	Surf Wash Boosters	–15.1
	Surf Ultra	15.0
	Sun Light	–3.2
	Rin Power White	420.0
	Wheel Green	–5.3
	Wheel Blue	36.0
2) Procter & Gamble	Ariel	2.1
	Ariel Super Soaper	364.0
3) Nirma Chemical Works	Nirma	–9.0
4) Spic Fine Chemicals	Henko stain Champion	15.0
	White Giant	100.0

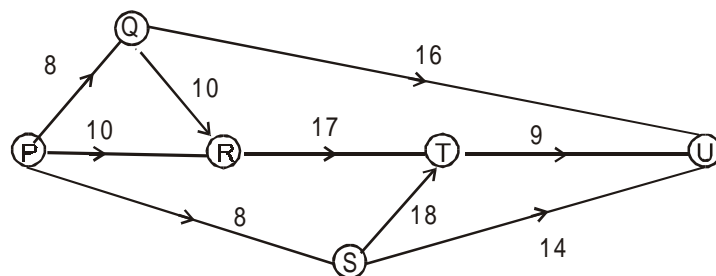
The total value of the detergent market in India in 1997 = Rs. 3200 Crore

The bar chart given below indicates the market share (in terms of value) for the detergent brands in 1997.



129. If the detergent market decreases by 18.75% in 1998 and Procter & Gamble takes over Spic Fine Chemicals (that is, the sales value of the brands Henko Stain Champion and White Giant gets added to the sales value of Procter & Gamble), what will be the percentage change in the total detergent sales of Procter & Gamble?(market share percentages in 1998 remain the same as in 1997)
- a. 16.5% b. 11.7% c. 8.4% d. 9.2%
130. By what amount is the total detergent sales of Hindustan Lever more than that of Procter & Gamble in 1997 (in Rs. Crore)?
- a. 768 b. 866 c. 794 d. 832
131. By how many crore rupees has the total detergent sales of Spic Fine Chemicals changed in 1997 over the previous year?
- a. 24.4 b. 32.2 c. 16.4 d. 18.9
132. If both varieties of Wheel (Wheel Blue and Wheel Green) show the same trend in percentage change in sales value in 1998, then what will be their combined sales value (in Rs Crore) assuming that the total detergent market remains constant in 1998 as compared to 1997?
- a. 669 b. 582 c. 712 d. 794

Directions for questions 133 to 135: Read the information given below and answer the questions that follow.



Theekthaakbhai undertakes overhauling of two wheelers, three wheelers and trucks at his garage. The overhauling process includes activities like scubbing, denting, painting, repairs, assembly etc. The network given above gives the sequence of activities to be followed and the time required (in hours) for each activity in overhauling a two wheeler. An activity is the work done between any two nodes (P, Q, R, S, T, U) in the above network. The overhauling of a vehicle (two wheeler, three wheeler, truck) starts at node P and the overhauled vehicle is delivered to the customer at U. All activities must be completed before a vehicle is delivered to the customer. The time required for each activity for two wheelers, three wheelers and trucks are in the ratio 1 : 2 : 3. The time taken to overhaul a vehicle is given by the sum of the time required by the activities lying in the route from P to U, with the longest duration of time.

133. What is the minimum time required for overhauling a truck (in hours)?
- a. 44 b. 132 c. 110 d. 330

134. Theekthaakbhai's charges (in rupees) for each activity are 100 times the time required to complete each activity. If a customer wants his vehicle delivered earlier, Theekthaabhai reduces the time required for each activity by one hour. At the same time, he charges the customer extra according to the following rates. For activities starting from P: 10% extra, for activities starting from Q: 12% extra, and for activities starting from S : 15% extra. What is the extra amount that a customer will have to pay in order to obtain the delivery of his three wheeler earlier, as per Theekthakbhai's rule?
- a. Rs 2020 b. Rs 1610 c. Rs 1120 d. None of these
135. If the time required for each of the activities (P – R) and (S – T) is reduced by 3 hours and that of activities (P – S) and (Q – U) is increased by 2 hours each, what will be Theekthaakbhai's change in revenue (in rupees) from overhauling a two wheeler, knowing that for each activity he still charges (in rupees) 100 times the time required for each activity?
- a. Rs. 200 b. Rs. 400 c. Rs. 1000 d. Data insufficient

Direction for questions 136 to 139: Answer the following questions based on the data given below.

Report for 2002-03: India occupies 3rd position in the coconut production in the world, with an area of 1.472 million hectares for and annual production of 11 billion coconuts. It is estimated that over 10 million of Indian population depends on their livelihood on this crop, which is extensively grown in the entire coastal belt of the nation. The target production set for the year 2010 by India is 20 billion coconuts.

Consider : Cultivable area = Cultivated area

Also, per capita production = $\frac{\text{Coconut production}}{\text{Population}}$

Productivity of land = $\frac{\text{Coconut production}}{\text{Cultivable area}}$

Population density = $\frac{\text{Population}}{\text{Total area}}$

Population of select coconut growing states in India (2002-03) is given in the following table:

State	Coconut production (in millions)	Population in lakhs
Kerala	5236	29.01
Tamil Nadu	2817	55.64
Lakshdweep	21	0.51
Pondicherry	26	7.89
West Bengal	285	67.89

The table below shows the coconut production in all coconut producing states of India as well as in different coconut producing countries of the world during the period 2000-01 and 2002-03.

Comparative coconut production (in millions)

INDIA				WORLD		
State	Total land Area (in m ²)	Coconut Production (in millions)		Country	Cultivable land area (in '000 hectares)	Coconut production (2002) (in millions)
		2002-03	2000-01			
Kerala	38863	5236	4527	Phillipines	3093	12264
Tamil Nadu	130058	2817	2358	Indonesia	3418	11711
Karnataka	191791	1252	1202	India	1518	10043
Andhra Pradesh	275068	1082	731	Sri Lanka	419	2296
West Bengal	88752	285	263	New Guinea	260	315
Orissa	155707	219	182	Malaysia	315	883
Maharashtra	307690	131	109	Thailand	389	1103
Goa	3702	113	116	Vietnam	220	1010
Andaman	8249	84	84	South Africa	455	2132
Assam	78438	103	79			
Lakshadweep	32	21	26			
Pondicherry	492	26	26			
Tripura	10486	5	4			
TOTAL	1289328	11374	9707			

136. Which of the following countries had its coconut production in 2002 closest to $\frac{1}{10}$ th of the average of India's production in 2000-01 and 2002-03?
a. Vietnam b. Indonesia c. South America d. Malaysia
137. What is the approximate average annual percentage increase during the period 2000-01 and 2002-03 in total production of the top four states in India in terms of coconut production?
a. 8.9% b. 17.8% c. 4.55% d. 20%
138. Consider an index Z for India, expressed in sq.km/person which is the ratio of per capita production to productivity of land. Assume cultivable land area to be directly proportional to the total land area. Which of the following statements must be TRUE with regard to Z?
I. $Z < 0.013$ for West Bengal
II. Z is directly proportional to population density for any state in India.
III. Z is inversely proportional to population density for any country.
a. I, II and III b. I only c. III only d. I and III
139. Assuming FOB (free on board) price of Rs. 3 per coconut for export, approximately how much foreign exchange could India have earned by exporting 60% of its 2002-03 production of coconuts? (1\$ = Rs. 32.2)
a. Rs. 614 crore b. \$ 0.64 billion c. Rs. 64 billion d. \$ 0.81 billion

Directions for questions 140 to 143: Consider the information provided in the figure below relating to the annual income and expenditure of 7 employees (A, B ... G) in the year 2002 and 2003. Total income is defined as the sum of expenditure and saving for that year. Bankruptcy for an employee occurs when expenditure is more than the total income for the employee in a particular year.

The total expenditure and income for all 7 employees for each year is given below.

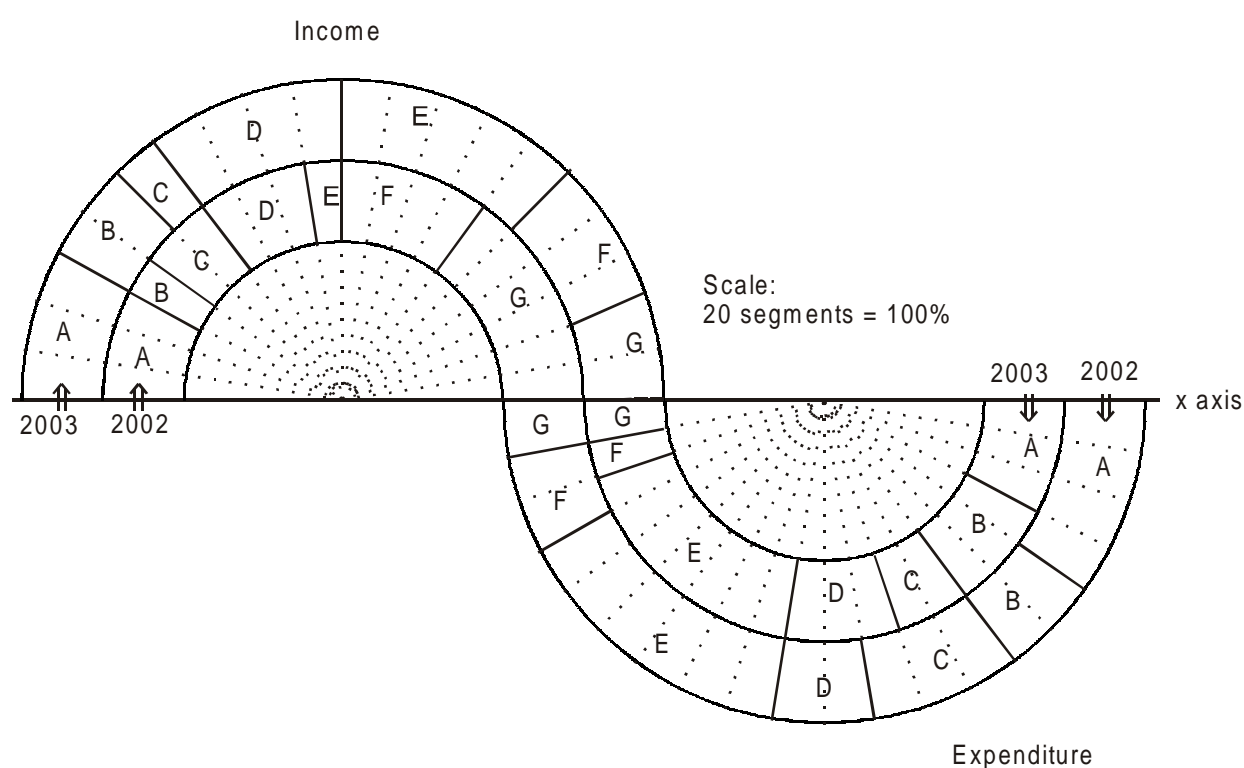
Total Expenditure 2003 = Rs. 4,50,000

Total Income 2003 = Rs. 600,000

Total Expenditure 2002 = Rs. 3,00,000

Total Income 2002 = Rs. 450,000

The chart given below show the distribution of the income and the expenditure among these 7 employees.



Hence upper position of X axis shows income and lower portion shows expenditure for the years 2002 and 2003.

Percentage income / expenditure of any employee is equal to the number of segments in which it is enclosed and it is 5% between two consecutive radial lines of the same arc.

140. For how many employees has bankruptcy occurred in the year 2002?

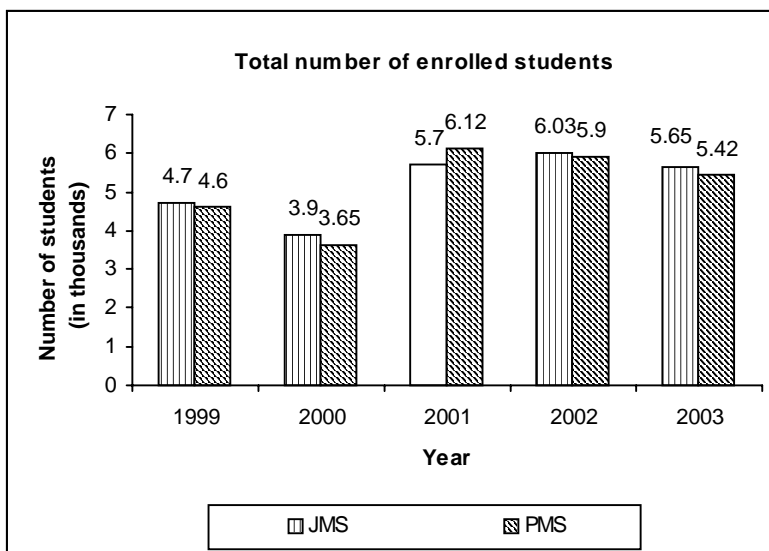
- a. 1 b. 2 c. 3 d. 0

141. The employee who has no saving and is not bankrupt in the year 2002 is:
a. A b. B c. C d. D
142. Which employee has made the maximum saving during the 2 year period (2002 and 2003)?
a. D b. F c. G d. A
143. Employees whose saving in the year 2003 is more than his expenditure in the year 2002 is:
a. D b. F, G c. D, F d. D, F and G

Direction for questions 144 to 147: All the following questions are related to the bar graph, table and the information provided.

JMS and PMS are two coaching centers who give coaching for a prestigious All India Examination for admission to management institutes. The total examination process consists of written test followed by interview. Only those students who clear the written test get call(s) for the interview from various management institutes. The number of calls may vary from 1 to 6 depending upon the performance of the written test. If anybody clears the interview then his/her call(s) are said to be converted, i.e. he/she gets finally selected to a management institute. A student who enrolls with one coaching center does not enroll with the other institute.

The chart below shows the enrolled students' data for the two coaching centers for the period 1999 to 2003.



The table below shows the call status of students at the coaching centers during the same period.

Year	Total number of students who got interview call(s)		Number of students who got more than 3 interview calls		Final number of students who converted their call(s)	
	JMS	PMS	JMS	PMS	JMS	PMS
1999	122	109	68	47	79	62
2000	117	119	63	62	77	81
2001	121	129	53	52	68	69
2002	112	102	62	58	75	71
2003	114	107	61	49	76	63

Total number of students who got interview call(s) is the sum of the number of students who got more than 3 calls and the number of students who got 3 or less than 3 calls. Number of students converted means the number of students who cleared the interview and finally got selected to a management institute.

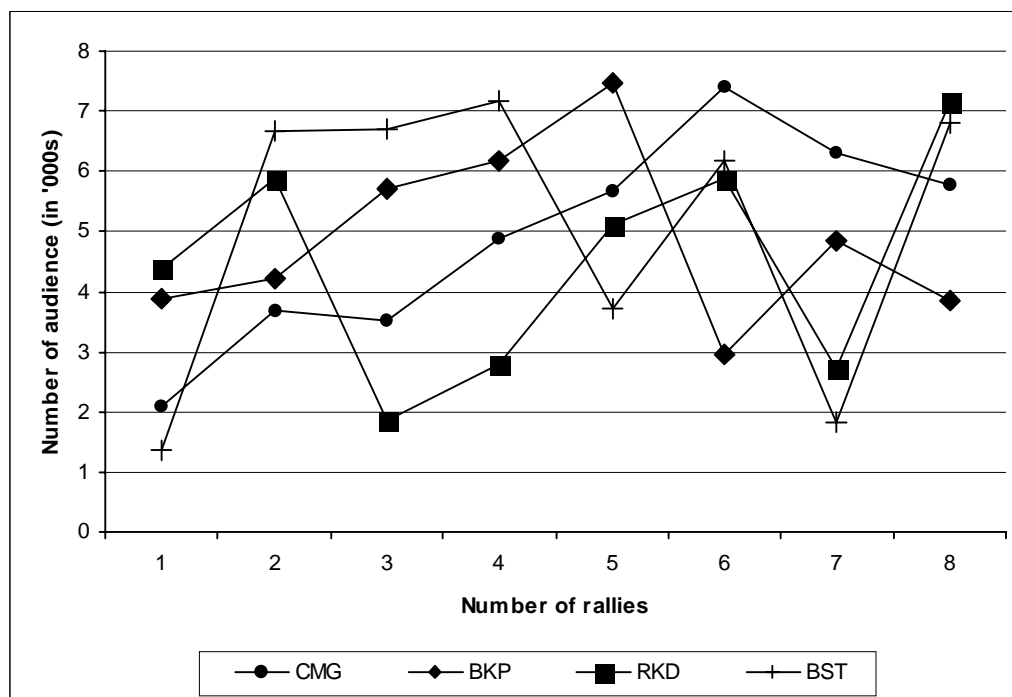
144. In which year the 'strike rate' of JMS was maximum?

$$\left[\text{Strike rate} = \frac{\text{Final number of students who converted the call(s)}}{\text{Total number of students who got calls}} \times 100 \right]$$

- a. 2003 b. 2000 c. 2002 d. 1999
145. For how many years during the period 1999-2003, was the 'strike rate' of PMS better than the 'strike rate' of JMS? [Refer to question number 144 for the definition of 'strike rate']
- a. 1 b. 2 c. 3 d. Never
146. If it is assumed that all the students who got more than 3 calls, converted their calls, then in which year (during the period 1999-2003), did the maximum number of students who got 3 or less than 3 calls convert their calls, considering from the students both the coaching centers together?
- a. 2001 b. 2003 c. 1999 d. 2000
147. What is the difference in the number of students between the average annual number of students enrolled with each coaching center during the given 5 year period?
- a. 66 b. 72 c. 58 d. 52

Direction for questions 148 to 150: Answer the questions based on the data given below.

The following graph shows the number of audience in the last eight rallies for each of the four political parties. The parties are CMG, BKP, RKD and BST. The rallies are numbered in sequence from 1 to 8.

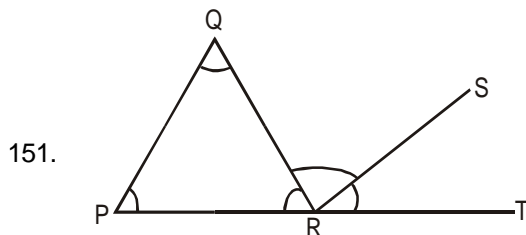


148. Which party had the maximum number of occurrences of initially a decrease in the number of audience followed by an increase in the number of audience in two consecutive rallies?
- a. CMG b. BST c. RKD d. Both (b) and (c)
149. What is the approximate difference in the number of audience between the 5th rally of CMG and 3rd rally of BST?
- a. 1500 b. 1800 c. 1000 d. 2000
150. Which of the parties and for which rally has shown the maximum percentage increase in the number of audience as compared to that in the immediately preceding rally?
- a. BST, 8th rally b. RKD, 8th rally c. BST, 2nd rally d. BKP, 6th rally

Directions for questions 151 to 155: Each question consists of a question and 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.



In the given figure, is the line PQ parallel to the line SR?

I. $\angle QRS = \angle PQR$

II. $\angle QRP = \angle SRT$

152. A marathon runner along a prescribed route passes through neighbourhoods P, Q, R and T (not necessarily in that order). How long does it take to run from P to T?

I. The runner averages 8 km per hour on the route from P to T.

II. T is 4 km from Q and 12 km from R, but P is 15 km from Q.

153. If p, q, r, s are non zero numbers, is $(p - 1)(q - 2)^2(r - 3)^3(s - 4)^4 \geq 0$?

I. $q > 2$ and $s > 4$

II. $p > 1$ and $r > 3$

154. Is $P \times Q$ an integer?

I. $\left(\frac{P}{2} + \frac{Q}{2}\right)^2$ is an integer.

II. $\left(\frac{P}{2} - \frac{Q}{2}\right)^2$ is an integer.

155. Five students A, B, C, D, E are experts in different subjects — Mathematics, Physics, Chemistry, Biology and Statistics (not necessarily in that order). C is an expert in Mathematics. A and E are not experts in Biology. Who is an expert in Physics?

I. B is not an expert in Physics and E is an expert in Statistics.

II. D is an expert in Chemistry.

Directions for questions 156 to 158: Answer the questions based on the given information.

An encoding system numerical data is devised to use phrases as follows:

- I. The digits in the number have a direct correspondence with the words in the phrase.
- II. The digit at each place is equal to the number of times vowels used in the corresponding word.
- III. Whenever two phrases are joined using 'and', their values should be multiplied.
- IV. Whenever two phrases are joined by 'or', their values should be added.
- V. At most 1 connective can be used in a sentence.

156. Which of the following represents 15?

a. The Mediterranean.

b. Fifteen and another one.

c. Sixteen or much more.

d. None of the above

Directions for questions 163 to 166: Answer the questions based on the following information.

Eight athletes are preparing from South India to participate in the “Shooting” or “Weight Lifting” competitions in the Olympics. Each person belongs to Karnataka, Andhra Pradesh or Tamil Nadu and each of these regions is represented at least once among the group. All female athletes belong to Andhra Pradesh. The results after the first round of screening are as follows:

- I. At least two have qualified for “shooting” competition, but not for the “Weight Lifting” competition.
- II. At least two have qualified for “Weight Lifting” competition, but not for the “Shooting” competition.
- III. At least one person has qualified for both the events.
- IV. Among the eight competitors, only athletes from Karnataka have qualified for “Weight Lifting” competition.

163. Which of the following statements CANNOT be true?
- a. The group includes more females than males.
 - b. The group includes fewer athletes from Karnataka than Tamil Nadu
 - c. The group includes fewer athletes from Tamil Nadu than Andhra Pradesh.
 - d. More athletes have qualified for “Weight Lifting” than “Shooting”.
164. If each athlete has qualified to compete in at least one of the two competitions, all of the following must be true EXCEPT:
- a. All athletes from Andhra Pradesh have qualified for “Shooting”
 - b. All athletes from Tamil Nadu have qualified for “Shooting”
 - c. All athletes from Karnataka have qualified for “Weight Lifting”
 - d. No athlete from Andhra Pradesh has qualified for “Weight Lifting”
165. If four of the athletes are male and four of the athletes are female, all of the following must be true EXCEPT:
- a. One of the athletes is from Tamil Nadu.
 - b. Four athletes are from Andhra Pradesh
 - c. Three athletes are from Karnataka
 - d. Four athletes have qualified for the “Shooting” competition
166. If the group includes more athletes from Tamil Nadu than Karnataka, the minimum number of male athletes among the group who have qualified for the “Shooting” competition is
- a. 0 b. 1 c. 2 d. 3
167. On a particular day Zudep and Nidhi decide that they would either speak the truth or will lie. Geepee asks Zudep whether he is speaking the truth or lying. He answers and Nidhi listens to what he said. Geepee then asks Nidhi what Zudep has said, Nidhi says “Zudep says that he is a liar”. What is Nidhi speaking?
- a. The truth b. A lie
 - c. The truth when Zudep lies d. Cannot be determined

Directions for questions 168 to 170: Answer the questions based on the following information.

The holy town of Mantralayam has 3 temples. The magical powers of each temple doubles the flowers a devotee carries every time he/she passes under the doorway at the entrance of the temple. He/She then offers some flowers to the idol and exits the temple with the remaining flowers.

168. Chari carries X flowers to temple 1. At each of the 3 temples, he places an identical number of flowers (Y). He exits the temple 3 without a single flower. X was most probably:
- a. 2 flowers b. 5 flowers c. 6 flowers d. 7 flowers
169. In the question 168, Y was most probably:
- a. 8 flowers b. 5 flowers c. 6 flowers d. 7 flowers
170. Rekha took 8 flowers to the temples and offered 4 flowers each to the first 2 temples. She visited temple 1 and 2 in sequence. How many flowers does she have by the time she faces the third idol in the third temple?
- a. 40 flowers b. 36 flowers c. 52 flowers d. 56 flowers