Data Interpretation and Logical Reasoning
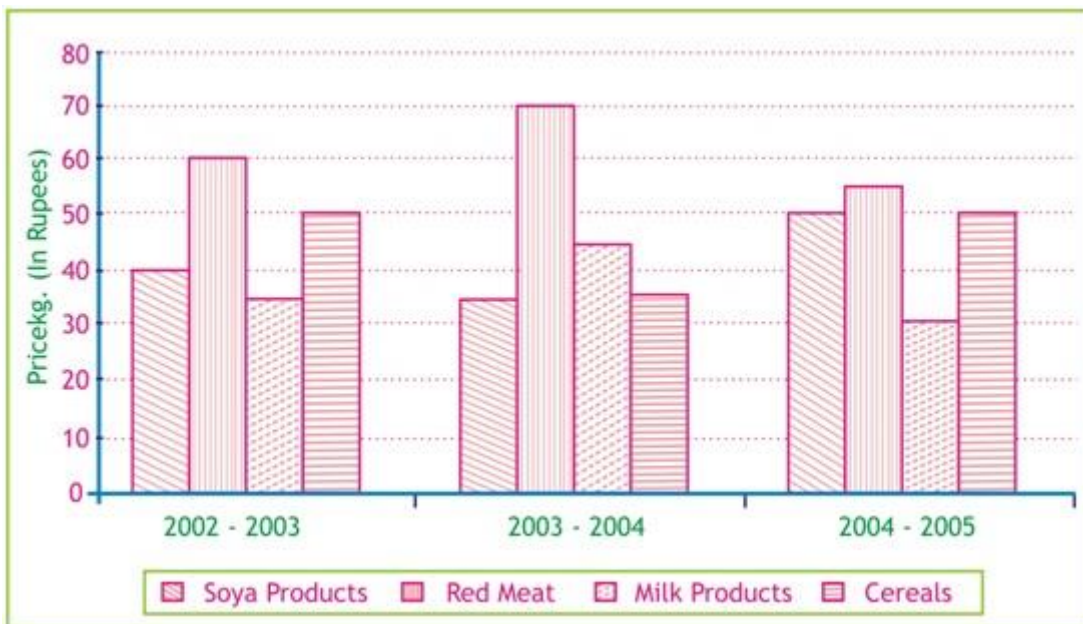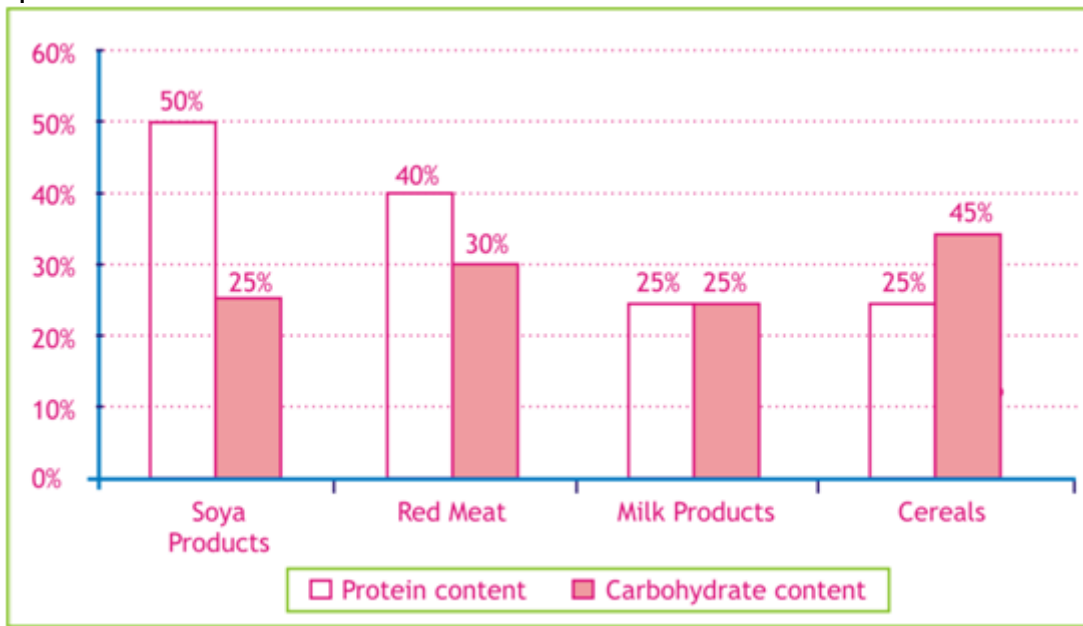
Directions for questions 1 to 5 : Refer to the bar graphs below and answer the questions that follow.

Graph I and Graph II show that Protein and Carbohydrate content and the price per kg. (in Rupees) of Soya Products, Red Meant, Milk Products and Cereals for 2002-2003, 2003-2004 and 2004-2005 respectively.

1. In the year 2002-2003, find out from which source was protein the costliest.
(a) Soya Products   (b) Red Meat   (c) Milk Products   (d) Cereals

2. What is the ratio of the cost of 1 gram of Carbohydrate from the costliest source to that from the cheapest source in the year 2002-2003?
(a) 1.44   (b) 1.43   (c) 1.80   (d) 1.14

3. If 250 grams of Protein from each product is required, then how much it will cost (approximately), in the year 2004-2005?
(a) Rs.100   (b) Rs.120   (c) Rs.140   (d) Rs.200

4. If the given sources are the only available sources of Protein, then what was (approximately) the percentage change in the average Protein price/kg.for the year 2003-2004 over the year 2002-2003?
(a) 0.5   (b) 0.9   (c) 2   (d) 5

5. If Soya Products, Red Meat, Mil Products and Cereals are in the ratio 1 : 2 : 3 : 4 for a mixture then what percent of this mixture will be other than Proteins and Carbohydrates?
(a) 30.5%   (b) 35.5%   (c) 51.2%   (d) 24.9%

Directions for questions 6 to 10 : A & B play a game of chance. There are 10 steps on a staircase numbered from 1 to 10 from bottom to top. The game is played by tossing a coin and depending on the result they either move up or down the steps. They move along the steps when the coin is tossed once and twice respectively as per the details given in the table below. One who reaches the ground or step number 10 first will be declared the winner. If in the beginning, they are standing on step number 5, answer the following questions:

A			B		
Outcomes	Move-1A	Move-2A	Outcomes	Move-1B	Move-2B
H	1U	1D	HH	2U	1D
T	1D	1U	HT	1U	2U
			TH	1D	2D
			TT	2D	1U
H = Head, T= Tail, U= Upward Movements, D= Downward Movements					

6. Find the minimum number of tosses required so that A & B are 3 steps apart.

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

7. Find the minimum number of tosses required so that Bwins the game.

(a) 5   (b) 6   (c) 8   (d) 10

8. Find the conditions such that A is always the winner.

(a) (i), (ii)   (b) (i), (i)   (c) (ii), (i)   (d) None

9. After the coin is being tossed 5 times, find the maximum number of steps between A and B.

(a) 6   (b) 5   (c) 8   (d) 9

10. Find the number of times the coin must be tossed so that A reaches the ground and B reaches the 10th step at the same time?

(a) 8   (b) 13   (c) 15   (d) None

Data for questions 11 to 15 :

There are six women, Shalini, Divya, Ritu, Rashmi, Nisha andRenu in a family of 12 members. There are few married couples in the family and none of the grand children are married. Sunil is married into the family. Rohan, Mahesh and Jatin have a nehhewDippesh who is the only son of Rashmi. Ravi is the

parental grandfather of Nisha. Ritu is the daughter-in-law of Shalini. Renu is the first cousin of Dipesh. Shalini has only three grand grandchildren. Mahesh has two brothers and only unmarried maternal uncle, Jatin is the brother-in-law of Sunil. Rohan is the parental uncle of Nisha. Ritu has two daughters one of whom is Nisha.

11. How married couples are there in the second generation?

(a) 1   (b) 2   (c) 3   (d) 4

12. Who is Dipesh?

(a) Son of Mahesh   (b) Grandson of Ravi

(c) Son of Rohan   (d) Nephew of Sunil

13. Which of the following is a married couple?

(a) Rohan and Ritu   (b) Shalini and Mahesh

(c) Renu and Sunil   (d) Mahesh and Ritu

14. Who is Rashmi?

(a) Wife of Mahesh   (b) Aunt of Renu

(c) Mother of Nisha   (d) Mother of Shalini

15. Which one of the following is true?

(a) Dipesh is son of Mahesh

(b) Ravi has only two married children

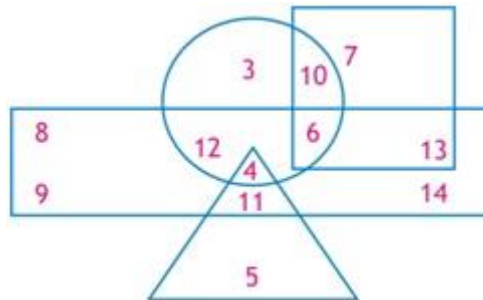(c) Ravi is parental grandfather of Renu

(d) None of these

Directions for questions 16 to 19 : Thefollowing questions are based on the diagram given below, where
(i) Rectangle represents males

(ii) Triangle represent educated people

(iii) Circle represents urban

(iv) Square represents civil servants

16. Who among the following is an educated male who is not an urban resident?

(a)   4   (b)   5   (c)   9   (d)   11

17. Who among the following is an educated male who hails from urban area?

(a)   4   (b)   2   (c)   11   (d)   5

18. Who among the following is uneducated and also an urban male?

(a)   2   (b)   3   (c)   11   (d)   12

19. Who among the following is only a civil servant but not a male nor urban oriented and uneducated?

 (a)   7   (b)   8   (c)   9   (d)   14

Directions for questions 20 to 21 : In the following questions the actual alphabets are replaced by certain other alphabets according to some rule to form its code.

20. If **BE QUICK** is coded as **ZC OSGAI,** then the code of last letter of the third word in the sentence **I LOVE MY COUNTRY** is

(a) A   (b) T   (c) U   (d) W

21. If **BELIEF** is written as **AFKKDI**, then how is **SELDOM** written in that code?

(a) TFKENP (b) RFKFNP (c) RFKENN (d) RDKCNL

Directions for questions 22 to 23 : A solid wooden cube is painted RED on two adjacent faces and BLACK on the faces opposite to the red faces and GREEN on the remaining faces. It is now cut into 64 smaller cubes all of same size then find:

22. How many cubes have only one face painted red?

(a) 8 (b) 12 (c) 16 (d) 24

23. How many cubes have one face green and one of the adjacent black or red?

(a) 8 (b) 16 (c) 24 (d) 28

Directions for questions 24 to 26 : The annual sugarcane production (in million tonnes) in Meethagaon for the period 2000-2006 is shown in the bar graph given below.
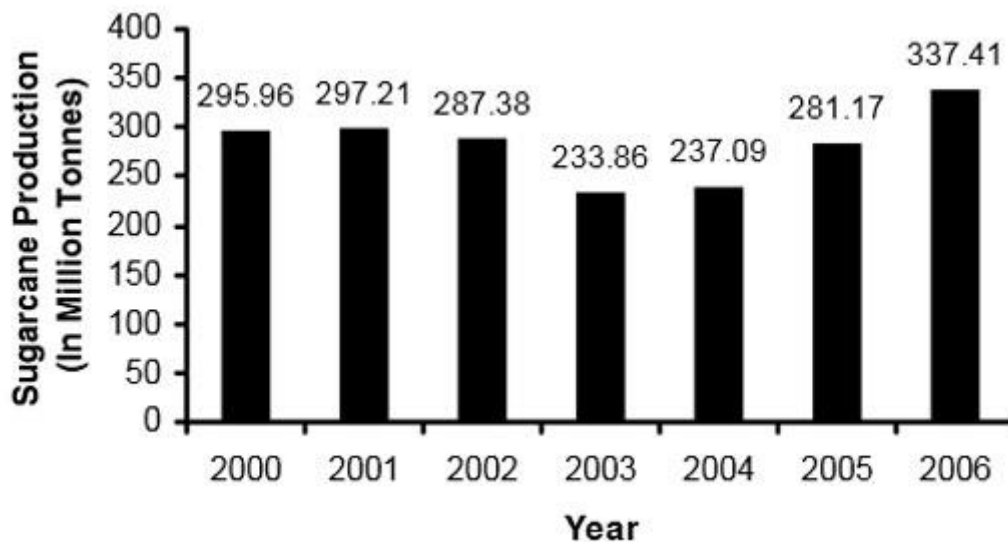
24. What is the approximate average annual sugarcane production (in million tonnes) in Meethagaon for the period 2000-2005?

(a) 281.4 (b) 326.5 (c) 272.1

(d) 328.3

25. The sugarcane production in Meethagaon in the year 2007 increases by 15% over the year 2006. What is the approximate compounded annual growth rate of sugarcane production in Meethagaon over the period 2004-2007?

    (a) 19%   (b) 17%   (c) 16%   (d) 18%

26. Out of the following, which year has shown the highest percentage increase in sugarcane production in Meethagaon compared to the previous year?

    (a) 2001   (b) 2004   (c) 2005   (d) 2006

Directions for questions 27 to 29 : Four machines A, B, C and D can produce four items E, F, G and H. The efficiency (in units/hr) of the machines for each product (while working alone on that product) is given in the table below.

	E	F	G	H
A	75	150	125	50
B	125	75	100	100
C	100	125	125	75
D	125	75	75	125

27. If 5000 units each of E, F, G and H are required then which machine will take the least time if used alone?

    (a) C   (b) D   (c) B   (d) A

28. 1680 units each of E, F, G and H are required. Each machine can produce only one item and no two machines can work simultaneously. How should the items be assigned to different machines so that the total time taken is minimum?

(a) A– H, B– E, C– G, D- F   (c) A– F,   B– E, C– G, D– H

(b) A– H, B– G, C– E, D– F   (d) A– F, B– E, C– H, D– G

29. Machines A and B can be operated only between 10 a.m. and 2 p.m. on a given day. They have to produce equal number of units of each item e.g. If machine A produces 100 units then it has to be 25 units each of E, F, G and H. What is the ratio of the maximum number of units that A and B can produce respectively?

(a) 31 : 36   (b) 83 : 96   (c) 31 : 37   (d) None of these

Directions for questions 30 to 32 : A team of 5 players Arpit, Bimal, Chatur, Dinu and Elan participated in a 'Freaket' tournament and played four matches (1 to 4). The following table gives partial information about their individual scores and the total runs scored by the team in each match.
Each column has two values missing. These are the runs scored by the two lowest scorers in that match.None of the two missing values is more than 10% of the total runs scored in that match.

		Match-1	**Match-2**	**Match-3**	**Match-4**
Runs scored by player	Arpit		100		53
	Bimal	88	65		52
	Chatur			110	
	Dinu	72	75	20	56
	Elan	60		78	
Total		270	300	240	200

30. What is the maximum possible percentage contribution of Arpit in the total runs scored in the four matches?

(a) 19.7%   (b) 19.9%   (c) 20.1%   (d) 2

0.2%

31. If the absolute difference between the total runs scored by Arpit and Chatur in the four matches is minimum possible then what is the absolute difference between total runs scored by Bimal and Elan in the four matches?

(a) 32   (b) 37   (c) 27   (d) C

annot be determined

32. The players are ranked 1 to 5 on the basis of the total runs scored by them in the four matches, with the highest scorer getting Rank 1. If it is known that no two players scored the same number of total runs, how many players are there whose rank can be exactly determined?

(a) 0   (b) 1   (c) 3   (d) 5

Directions for questions 33 to 35 : The following table shows the sales figures of the four brands of laptops - HP, Compaq, IBM and Sony in the various regions of the world. The figures are given either in absolute numbers or as percentage of the total sales in the region. Assume that no other brand of laptops is present in the given regions. Based on the given table, answer the questions that follow.

	HP	Compaq	IBM	Sony
North Asia	4960	18%	14%	480
East Europe	19%	630	22%	17%
West Europe	32%	13%	19%	2160
North America	4260	9%	12%	8%
South America	5%	1260	990	20%

East Africa	225	484	517	128
West Africa	180	26%	900	2250
South Asia	450	4050	1350	35%
Australia	25%	32%	14%	754

33. What is the total number of laptops sold by IBM across all the regions combined?

(a) 7431 　　　　　　　(b) 12680 　　　　　　　(c) 8451 　　　　　　　(d) 7831

34. The ratio of laptops sold in South Asia, West Africa and East Europe is

(a) 3 : 6 : 1 　　　　　　(b) 3 : 6 : 2 　　　　　　(c) 6 : 3 : 1 　　　　　　(d) 3 : 2 : 1

35. Which of the following options is/are true?

I. Total sales of Laptops in South America is 3000 units.

II. Sales of IBM in East Africa is 25% more than sales of HP in West Africa.

III. The ratio of sales of Compaq in North America to the sales in South America is 3 : 7.

(a) Only I 　　　　　　(b) I and II 　　　　　　(c) I and III 　　　　　　(d) II and III

Directions for questions 36 to 38 : The following data pertains to the profiles of 100 students who have appeared for the 'Selection Process' of a B-School, ISW College in the year 2009.

1. Each student has written exactly one of the two tests LAT or BAT, and every one of them has at least one of the two features - Good Academic Record (GAR) or Extra Curricular Activities (ECA).

2. No student who has written LAT has both GAR and ECA.

3. Sixty percent (60%) of the students who have appeared for the Selection Process have written LAT, of which 40% have Work Experience.

4. Fifty percent (50%) of the students who have appeared for the Selection Process have Work Experience, of which 30 students have GAR.

5. The number of students who have written BAT and also have both Work experience and GAR is 20.

6. The number of students who have written LAT and also have GAR is 25.

7. The number of students who have ECA but have no Work Experience is 35

36. Out of all the students who have appeared for the Selection Process of ISW College, how many have written BAT and have Work Experience and GAR, but no ECA?

(a) 10   (b) 15   (c) 20   (d) Cannot be determined

37. Out of all the students who have appeared for the Selection Process of ISW College, what is the maximum possible number of students who have GAR and who have also written BAT but have no
Work Experience?

(a) 10   (b) 12   (c) 14   (d) Cannot be determined

38. Out of all the students who have appeared for the Selection Process of ISW College, what is the total number of students who have written LAT and have ECA?

(a) 31   (b) 35   (c) 28   (d) Cannot be determined

Directions for questions 39 to 41 : The bar graph given below shows the marks obtained by five students - Anup, Himanshu, Sudip, Vishal and Rohan in three subjects - Physics, Chemistry and Mathematics. The five students are

disguised as S1, S2, S3, S4 and S5, in no particular order. Rohan's total score in all the three subjects combined was 4 marks more than that of Himanshu. Anup obtained 50 marks in Chemistry.
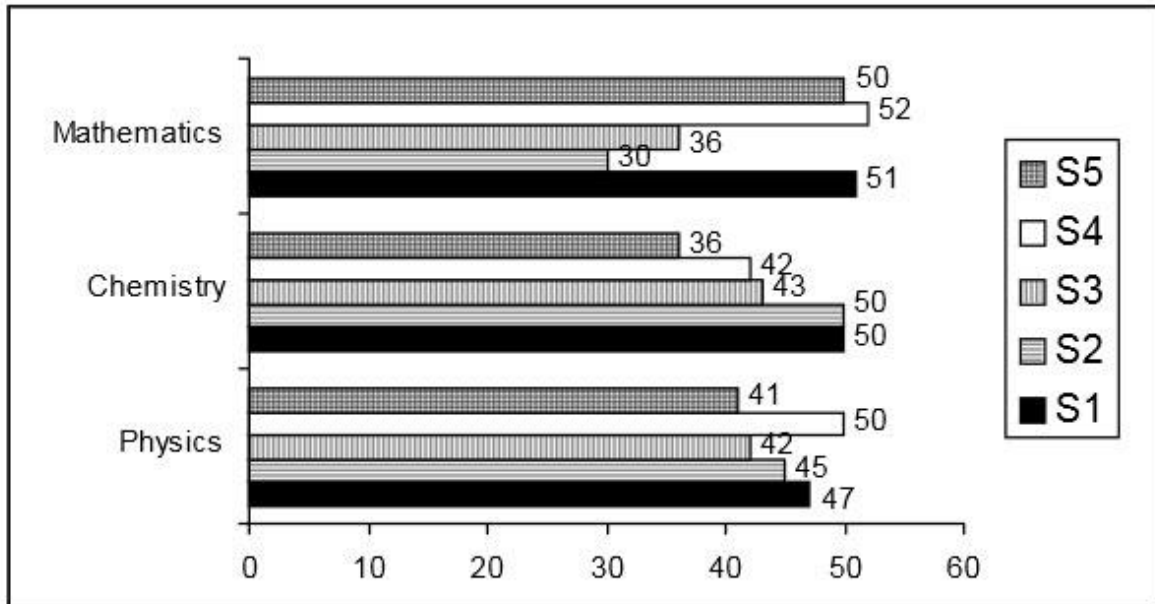
39. Who is disguised as S3?

(a) Himanshu   (b) Vishal   (c) Sudip   (d) Cannot be determined

40. Given below are two Statements based on the data provided in the question. Choose the most appropriate option.

I. Sudip obtained the lowest marks in Chemistry among the five students.

II. Himanshu's total score in all the three subjects combined was more than that of Sudip.

(a) If Statement I is true, then Statement II is definitely true.

(b) If Statement II is true, then Statement I is definitely true.

(c) If Statement I is false, then Statement II is definitely false.

(d) None of the above options is correct.

41. Given below are two statements based on the data provided in the question. Choose the most appropriate option.

I. Himanshu obtained the highest marks in Mathematics among the five students.

II. Rohan's total score in all the three subjects combined was the highest.

(a) If Statement I is true, then Statement II is definitely true.

(b) If Statement II is true, then Statement I is definitely false.

(c) If Statement I is false, then Statement II is definitely true.

(d) More than one of the above options are correct

Directions for questions 42 to 44 : Twelve people Aashu, Abhishek, Feroz, Himanshu, Jatin, Manoj, Mohit, Sajid, Saral, Shivku, Tarun and Vijay are sitting at a rectangular table. The table has 12 chairs numbered from 1 to 12 (see figure) and each chair is occupied by one of the 12 people (not necessarily in the same order). Some additional information is given below:

(1) Manoj, sitting at chair number 1, is diagonally opposite Feroz who is sitting opposite Himanshu.

(2) Jatin is sitting opposite Saral who is the only person sitting between Abhishek and Vijay.

(3) Aashu is sitting opposite Tarun who is the only person sitting between Feroz and Shivku.
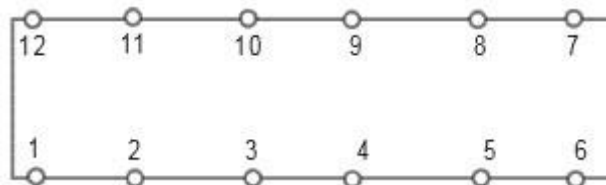
42. If Shivku is not sitting opposite Vijay, then who is sitting next to Manoj?

(a) Abhishek   (b) Jatin   (c) Vijay   (d) Either Jatin or Vijay

43. How many different seating arrangements are possible if Manoj is not sitting next to Vijay?

(a) Two (b) Three

(c) Four (d) Six

44. If Sajid is sitting at one of the corner seats, then who is sitting opposite him?

(a) Manoj (b) Jatin (c) Himanshu (d) Aashu

Directions for questions 45 to 46 : Sharma Jee wants to buy a book and is confused between four novels of different genres - mystery, horror, comedy and thriller. The novels are written by Lalu, Monu, Nonu and Ovattio and published by Purshottam, Quattchori, Rajveer and Sarkar, not necessarily in the same order. The horror novel is published by Quattchori and the thriller novel is written by Nonu. Each novel is written by a different author and published by a different publisher. It is also known that Lalu and Monu get their books published by Purshottam or Quattchori only.

45. If the mystery novel is written by Ovattio then who can be the publisher of the comedy novel?

(a) Purshottam or Quattchori (b) Only Purshottam

(c) Purshottam or Rajveer (d) Purshottam or Rajveer or Sarkar

46. How many combinations of publisher and author are possible for the mystery novel?

(a) 6 (b) 3 (c) 4 (d) 5

47. Sixteen candies are to be distributed among four boys Raja, Ram, Mohan and Roy such that each boy receives at least one candy and no two boys receive the same number of candies. Roy should receive 4 more candies than Ram. The number of candies received by Ram should be less than that

received by Raja but more than that received by Mohan. What is the difference between the maximum

and the minimum number of candies that Raja can receive?

(a) 1   (b) 2   (c) 3   (d) 4

48. Eight floors in a building (from 1 to 8) are occupied by A, B, C, D, E, F, G and H, with each person occupying a distinct floor. Further it is known that:

1. A lives 5 floors above B.
2. H lives on the only floor between C and E.
3. D and F live on adjacent floors.
4. B does not live on the 1st floor.

'N' is defined as the difference between the floor numbers of C and D. How many different values of 'N' are possible?

(a) 4   (b) 8   (c) 6   (d) 5

49. Six balls, each having a distinct colour are equally distributed among three boys Amar, Billu and Chiklu. The balls are coloured blue, green, yellow, pink, red and black. All the boys make three Statements each. All the Statements are true except Statement 3 made by two of the boys.

Amar	Statement 1 : I don't have the red ball
	Statement 2 : I have the green ball
	Statement 3 : Chiklu does not have the pink ball
Billu	Statement 1 : I don't have the black ball
	Statement 2 : I have the red ball
	Statement 3 : Amar does not have the blue ball
Chiklu	Statement 1 : I don't have the yellow ball
	Statement 2 : I have the black ball
	Statement 3 : Billu does not have the blue ball

Who speaks the truth in all the three statements?

(a) Amar (b) Billu (c) Chiklu (d) Cannot be
determined

50. The question given below is followed by two statements, A and B. Mark
the answer using the following instructions:
Mark (a) if the question can be answered by using one of the statements
alone, but cannot be answered by using the other statement alone.

Mark (b) if the question can be answered by using either statement alone.

Mark (c) if the question can be answered by using both the statements
together, but cannot be answered by using either statement alone.

Mark (d)   if the question cannot be answered even by using both the
statements together.

Q. A train started from point P towards point Q and met with an accident after
traveling 30 km. The train's speed got reduced because of the accident and it
finally reached Q 16 minutes late. What is
the distance covered by the train between P and Q?

A. The train would have reached 21 minutes late had the accident taken place
20 km after P.

B. The train would have reached 12 minutes late had the accident taken place
20 km before Q.

51. The question given below is followed by two statements, A and B. Mark
the answer using the following instructions:
Mark (a) if the question can be answered by using one of the statements
alone, but cannot be answered by using the other statement alone.

Mark (b) if the question can be answered by using either statement alone.

Mark (c) if the question cannot be answered even by using both the statements together.

Mark (d) if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

Q. What is the age of Mohan (in completed years) on 31st December, 2000?

A. Mohan was born after 1950 and the last two digits of the birth year of Mohan form a prime number.
B. Mohan's son is 24 years younger than Mohan and the last two digits of his birth year form a prime number.

Directions for questions 52 to 56 : IILK organized a 2-day Indian Classical Music Event with three slots on each day. Four artists – Subbu, Kumar, Shankar and Kehsanloy – and three bands – Delhi Sea, GTH and Mitti – performed at the event. In each slot, an artist or a band or a combination of an artist and a band performed. No artist performed alone in the last slot of a day and no band performed alone in the first slot. Whenever Delhi Sea and Mitti performed, they did it in two successive slots with Delhi Sea performing before Mitti. The number of performances given by Shankar was less than that given by GTH and the last performance of Shankar was held before the first performance of GTH. Subbu performed alone only once during the event and that was in the first slot on the second day. The sum of the number of performances given by Mitti, Kehsanloy and Kumar respectively wasn't a prime number. The total number of performances given by the artists was equal to the total number of performances given by the bands.

52. It is known that Kehsanloy performed in the last slot on both the days. If a combination of an artist and a band performed in two of the slots on the second day, then who performed in the second slot on the first day?
(a) Shankar-GTH   (b) Shankar-Mitti   (c) Mitti   (d) Kumar-Mitti

53. If Kumar performed on both the days, then he must have performed with which of the bands?

(a) Delhi Sea (b) GTH   (c) Mitti   (d) Cannot be determined

54. Which of the following statements cannot be true?

(a) Kehsanloy and GTH performed in the third slot on the first day.

(b) Shankar and Mitti performed in the second slot on the first day.

(c) Kumar and GTH performed in the third slot on the second day.

(d) None of these

55. The question given below is followed by two statements, A and B. Mark the answer using the following instructions:

Mark (a) if the question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.

Mark (b) if the question can be answered by using either statement alone.

Mark (c) if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

Mark (d) if the question cannot be answered even by using both the statements together.

56. Each of the five children – Aman, Bhanu, Chaman, Deepak and Elhan – likes at least one activity among Rowing, Singing, Dancing, Sketching and Running. Each activity except Dancing is liked by at least three of the five children. There are two children who like exactly the same set of activities. Aman likes Rowing and Running. There is no activity which is liked by both Aman and Deepak. Both Bhanu and Deepak like Dancing but there is no other activity which is liked by both of them. Deepak likes Sketching. Who among the five children definitely like Running?

(a) Aman, Bhanu, Chaman and Elhan.   (b) Aman, Chaman, Deepak and Elhan.

(c) Aman, Chaman and Elhan.   (d) Aman, Bhanu and Chaman.

Directions for questions 57 to 62 : Ten people – Chuck, Berry, David, Gilmour, Eric, Clapton, Jimmy, Page,Kirk and Hammett – live in a building that has six floors numbered 1 to 6 (lowest to highest). Each floor is occupied by at least one of the ten people. If N(x) represents the number of people living on floor x, then N(1) = N(6) ≠ N(3) and N(2) = N(5).Also, N(x)≠ N(x+1) for x = 1 to 5. It is also known that:

(i) Both Chuck and Berry live on the floor that is immediately above the floor on which Kirk lives.

(ii) David lives on a higher floor as compared to Clapton, Jimmy and Hammett but on a lower floor as compared to Chuck.

(iii) Gilmour and Page live on the same floor.

(iv) The number of people who live on the floor on which Jimmy lives is equal to that on which Eric lives.

57. What is the difference between the number of people who live on floor 3 and floor 5?

(a) 0   (b) 1   (c) 3   (d) 2

58. Who among the following lives on floor 6?

(a) Eric   (b) David (c) Chuck   (d) Gilmour

59. How many people live on a floor higher than the one on which Jimmy lives?

(a) 7   (b) 5   (c) 9   (d) 6

60. Five sentences are given below, labeled A, B, C, D and E. They need to be arranged in a logical order to form a coherent paragraph. From the given options, choose the most appropriate one.

A. In 1986 it was renamed Recent Acquisitions because, as the museum's director Philippe de Montebello wrote, the rise in art prices "has limited the quantity and quality of acquisitions to the point where we can no longer expect to match the standards of just a few years ago."

B. And as the museum's buying power fades, public experience of art is impoverished, and the brain drain of gifted young people from curatorship into art dealing accelerates.

C. From the point of view of American museums, the art-market boom is an unmitigated disaster.

D. The symbol of the Metropolitan Museum of Art's plight is an annual booklet that used to be titled Notable Acquisitions.

E. These institutions voice a litany of complaints, a wrenching sense of disfranchisement and weakness, as their once adequate annual buying budgets of $2 million to $5 million are turned to chicken feed by art inflation.

(a) ABECD   (b) DABEC
(c) CEDAB   (d) DABCE

61. Six persons – Chetan, Kartik, Hari, Pankaj, Naresh and Vicky – are married to Radha, Kiran, Shama, Hema, Divya, and Charu, not necessarily in the same order. There is no person among the six whose name starts with the same letter as his wife's name. They are going on a picnic in three cars such that each car has two couples. It is known that:
(i) Charu is not in the same car as Hari.

(ii) Radha is in the same car as Pankaj.

(iii) Shama is in the same car as Hema.

(iv) Kiran is not in the same car as Naresh.

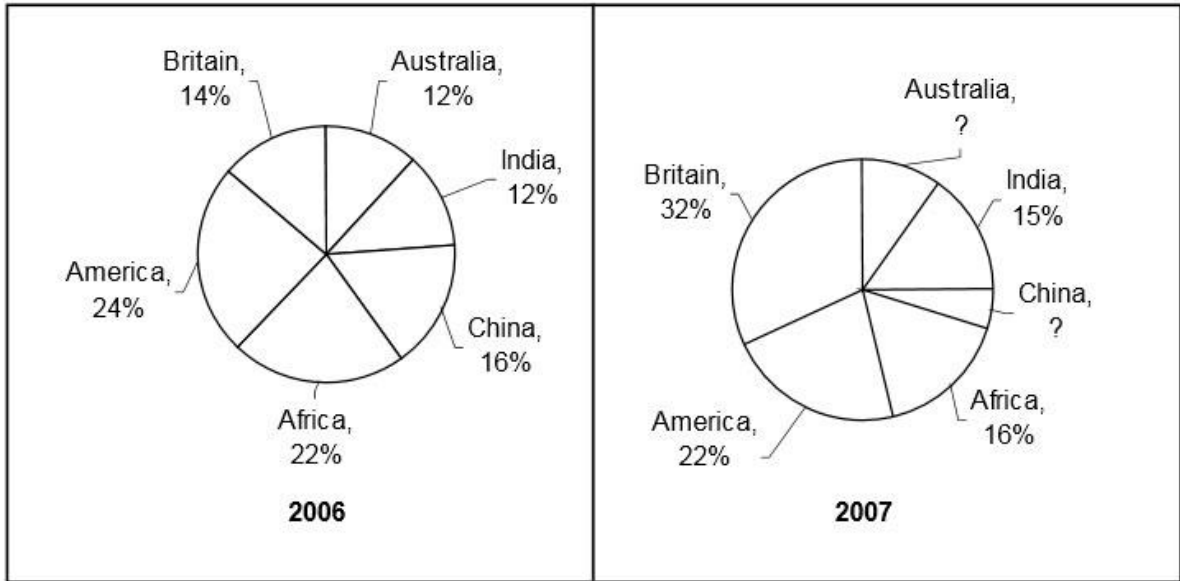(v) Divya is not in the same car as Charu.

If Vicky is in a car in which nobody's name starts with the same letter as that of any of the other eleven persons, then which of the following statements cannot be true?

(a) Shama is married to Hari.

(b) Hema is married to Kartik.

(c) Radha is married to Vicky.

(d) Pankaj is married to Divya

62. Eight persons – Anu, Bindu, Candy, Dolly, Emran, Fiza, Gauri and Hemant – are sitting at a square table, in the same order, in clockwise direction. Two persons are sitting on each side of the table. Two of them are Managers, two Executives, two Consultants and two Engineers. The Executives are sitting opposite each other. One of the Executives is sitting on the same side of the table as an Engineer and on his/her left. The Consultants are sitting opposite each other and each of them is sitting next to an Engineer. The Managers are sitting next to each other. If Anu is a Consultant who is sitting next to a Manager, then which of the following statements is definitely false?

(a) Fiza is an Executive.

(b) Hemant is sitting next to a Manager.

(c) Emran is an Engineer.

(d) None of these

Directions for questions 63 to 64 : A traveller spent some money in six different nations. The pie charts given below show the money spent in each of the nations as a percentage of the total money spent in that year. The money spent in China in the year 2007 was 75% less than the money spent in China in the year 2006. The money spent in India was same for the two years.

2006

Britain, 14%
Australia, 12%
India, 12%
America, 24%
China, 16%
Africa, 22%

2007

Australia, ?
Britain, 32%
India, 15%
America, 22%
China, ?
Africa, 16%

63. In the year 2007, what percentage of the total money spent by the traveller was spent in China?

(a) 8%   (b) 6%   (c) 4%   (d) 5 %

64. If the money spent by the traveller in Britain, America and Africa together was 32 dollars more in 2006 than in 2007, then how much money (in dollars) was spent by the traveller in Australia in the year 2007?

(a) 64   (b) 120

(c) 96   (d) 80

Directions for questions 65 to 67 : In a country called XYZ, the number of patients changes every year. The graph given below shows the percentage change in the number of patients w.r.t. the previous year. The table given below shows the number of hospitals available in XYZ. The number of patients in 1999 were 2,00,000

Percentage change in the number of patients
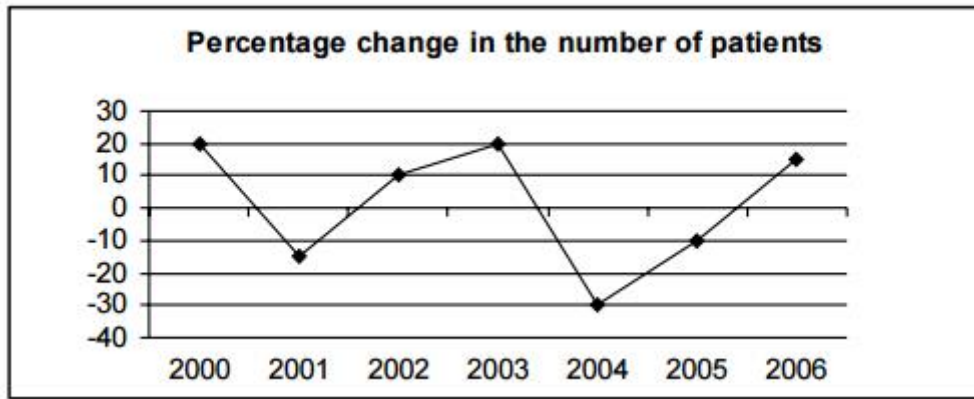
Year	Number of Hospitals
2000	4700
2001	4850
2002	5100
2003	5200
2004	5350
2005	5500
2006	5700

The Unhealthiness Index of XYZ for a year is defined as the number of patients per hospital in the country.

65. Find the year for which the Unhealthiness Index of XYZ was the maximum.

(a) 2000   (b) 2003   (c) 2004   (d) 2006

66. In 2006, WHO launched a massive health improvement program in XYZ. As a result there was 30% reduction in the number of patients per year for the next two years and the number of hospitals in the country was also increased by 10% per year during the same period. Find the Unhealthiness Index of XYZ for the year 2008.

(a) 15.4   (b) 19.8   (c) 13.9   (d) 21.3

67. The Government of XYZ targets an Unhealthiness Index of 15 for the year 2007. By approximately what percent should the number of hospitals be increased in 2007 over the previous year if the number of patients in 2007 is expected to decrease by 40% over the previous year?

(a) 27%　　　　　(b) 34%　　　　　(c) 47%　　　　　(d) 37%

Directions for questions 68 to 69 : In a five-star hotel there are 100 employees of which some are chefs. Each chef can make cuisine of at least one type among Chinese, Indian and Continental. For each cuisine, the number of chefs who can make only that cuisine is two and a half times the number of chefs who can make exactly one more cuisine apart from that cuisine. The number of chefs who can make only Indian and Chinese cuisine is equal to the number of chefs who can make only Chinese and Continental cuisine and is also equal to the number of chefs who can make only Continental and Indian cuisine.

68. There are 40 employees who are not chefs and 6 chefs who can make all the three cuisines in the hotel. How many chefs can't make Continental cuisine?

(a) 18　　　　　(b) 33　　　　　(c) 30　　　　　(d) 15

69. The number of employees who are not chefs is greater than the number of chefs who can make only Indian cuisine. What is the maximum possible number of chefs who can make exactly one cuisine?

(a) 30　　　　　(b) 45　　　　　(c) 60　　　　　(d) 75

Directions for questions 70 to 72 : Four people M_1, M_2, M_3 and M_4 own four different brands of bikes B_1, B_2, B_3 and B_4 and four different brands of cars C_1, C_2, C_3 and C_4 respectively. Each person likes exactly one of the four bikes and one of the four cars mentioned. Each bike and each car is liked by exactly one of the four persons. Further it is known that:

i. M_1 likes the bike of the person who likes C_1 and B_4.

ii. The person who likes B_3 is the only person who likes his own car and he is not M_3.

70. Which bike is liked by M_2?

 (a) B_1 (b) B_2 (c) B_3 (d) B_4

71. Which car is liked by M_3?

(a) C_1 (b) C_2 (c) C_3 (d) C_4

72. Which of the following statements is correct?

(a) M_1 likes M_2's bike and M_4's car.

(b) B_4's owner likes C_1.

(c) The person who likes C_3 also likes B_2.

(d) C_4 is liked by the owner of B3

Directions for questions 73 to 74 : There are six people Akhil, Beena, Chetan, Dheeraj, Ekta and Feroz who are to be seated on six chairs numbered 1 to 6, each facing North, with 1 being the chair lying on the extreme left and 6 on the extreme right. Some other information is also given regarding their seating plan.

▪ Chetan is sitting to the right of Akhil and Ekta.
▪ Beena is sitting to the left of Dheeraj.
▪ Ekta is sitting immediately to the left of Feroz.
▪ Dheeraj is not sitting in any of the two rightmost positions.

73. How many positions are possible for Akhil?

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

74. If there are exactly two people between Beena and Feroz, who is sitting second from the left?

(a) Beena   (b) Dheeraj

(c) Either (a) or (b)   (d) None of these

75. Each one of the three friends Budha, Lallu and Sharad is either from Earth or from Jupiter. Budha and Sharad make statements which are given below.

Budha: Both Lallu and Sharad are from Jupiter.

Sharad: Lallu says that he is not from Jupiter.

If it is known that the residents of Earth never speak a lie and the residents of Jupiter never speak the truth, then who is definitely from Jupiter?

(a) Budha   (b) Sharad

(c) Both Budha and Sharad   (d) Lallu

76. The question given below is followed by two statements, A and B. Mark the answer using the following instructions:
Mark (a) if the question can be answered by using Statement A alone, but cannot be answered by using Statement B alone.

Mark (b) if the question can be answered by using Statement B alone, but cannot be answered by using Statement A alone.

Mark (c) if the question cannot be answered even by using both the statements together.

Mark (d) if the question can be answered by using either statement alone.

Q. Three leading strikers - Torres, Messi and Rooney make some interesting statements on their respective international goals at the start of the World Cup.

I. Rooney: If I score 7 goals in the World Cup, my total goals would be equal to Torres' present total.

II. Torres: If I score 8 goals in the World Cup, my total goals would be double of Messi's present total.

What is the total number of goals scored by each of them before the World Cup?

A. Rooney and Messi together have 21 goals before the World Cup.

B. The absolute difference between the total goals scored by Rooney and Messi before the World Cup is 3

77. P, Q, R, S and T are statements such that, if P is true then both Q and S are true, and if both R and S are true then T is false. So we can conclude that
(a) if T is true then both P and R must be true.
(b) if T is true then both P and R must be false.
(c) if T is true then atleast one of P and R must be true.
(d) if T is true then atleast one of P and R must be false.

78. A team of three, comprising two boys and one girl, has to be selected from a group of seven people A, B, C, D, E, F and G in which there are three girls and four boys. Some of the possible teams are shown below :

Team 1	ACE
Team 2	BDF
Team 3	EFG
Team 4	ABD

Who among the following is/are girl(s)?

(a) A   (b) C
(c) G   (d) Both C and G

79. The question given below is followed by two statements, A and B. Mark the answer using the following instructions:
Mark (a) if the question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.

Mark (b) if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

Mark (c) if the question can be answered by using either statement alone.

Mark (d) if the question cannot be answered even by using both the statements together

Directions for questions 80 to 81 : Travelabad is famous for its vast railway network. It has three types of trains – Super Fast, Express and Passenger – and each type of train has two classes of travel –Sleeper and Air Conditioned. The train fare in Travelabad has two components– fixed fare and variable fare. The fixed fare is based on the class of travel – Rs. 60 for Sleeper and Rs. 100 for Air Conditioned. The variable fare depends on the distance of the journey, the type of train and the class of travel. The table given below shows the variable fare (in Rs.) for different distance ranges from the source station to the destination station.

Distance Range	≤ 150 km		151 – 500 km		501 – 1000 km		1001 – 1800 km		≥ 1801 km	
Class	SL	AC	SL	AC	SL	AC	SL	AC	SL	AC
Super Fast	80	200	155	500	250	650	340	950	480	1250
Express	60	160	110	300	175	450	240	650	330	900
Passenger	45	120	80	225	125	325	160	425	225	550

AC = Air Conditioned Class
SL = Sleeper Class

80. Ghumakkad Das travels only in the Sleeper class of Super Fast trains. He travelled from Delni to Bhokal and then took another train from Bhokal to Mumtai. Next day he returned to Delni directly from Mumtai. The total train fare while going to Mumtai from Delni via Bhokal exceeded the train fare while coming back to Delni from Mumtai by Rs.125. If Bhokal lies on the only rail route connecting Delni and Mumtai, in which range does Delni-Mumtai rail distance fall?

(a) 151 – 500 km   (b) 501 – 1000 km   (c) 1001 – 1800 km   (d) 1801 km

81. One day Yatri Kumar travelled in the Sleeper Class of a train. Next day he travelled in the Air Conditioned Class of the same type of train for a different journey. If the train fare on the two days was exactly the same, in which type of train did he travel?

(a) Super Fast   (b) Express   (c) Passenger   (d) Cannot be determined

Directions for questions 82 to 84 : Bar Graph - I shows the month-wise total sales (in'00 units) of cars by Naruti Kuzuki Ltd. from April 2010 to July 2010. Bar Graph - II shows the sales (in' 000 units) of four of the car models– Ken, Sezire, Palto and Dwift– of Naruti Kuzuki Ltd. in the four months.
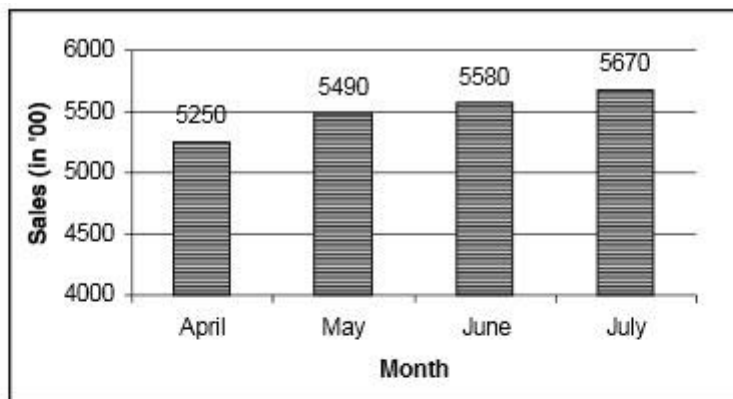
Graph - I
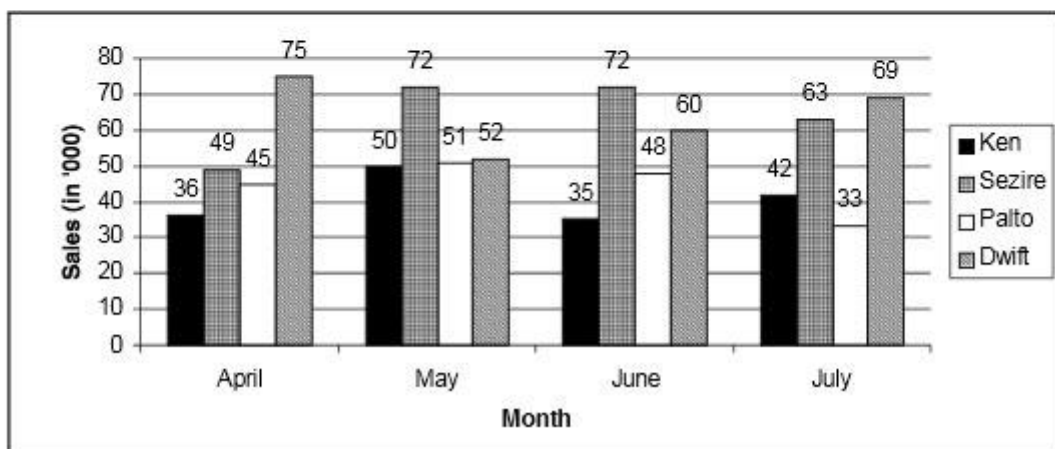
Graph - II

82. For which of the four car models is the absolute percentage change in the sales from April 2010 to July 2010 equal to the absolute percentage change in the total sales of cars by Naruti Kuzuki Ltd. during the same period?

(a) Dwift   (b) Ken

(c) Sezire   (d) Palto

83. What is the percentage increase in the sales of the rest of the car models (other than the given four) by Naruti Kuzuki Ltd. from May 2010 to July 2010?

(a) 7.5%   (b) 8%   (c) 9.09%   (d) None of these

84. For which month is the ratio of the sales of Sezire to the total sales of cars by Naruti Kuzuki Ltd. the highest?

(a) April   (b) May   (c) June   (d) July

Directions for questions 85 to 87 : The table given below shows the various costs (in Rs. lakhs) incurred on the production of one ton of five different crops and the Selling Price (in Rs. lakhs) per ton of each crop.

Crop	Maize	Rice	Sugar Cane	Cotton	Mustard Seeds
Raw material cost	10.5	12	7.5	27	19
Insecticides/ Pesticides cost	11.5	8	9.5	42.5	32.5
Fertilizers cost	13.5	10	17.5	20	21
Fuel Consumption Cost	20	15	12.5	10	22.5
Irrigation cost	8	11.5	22	33	16.5
Storage cost	14	8.5	21	20	11
Transportation cost	12.5	10	15	7.5	17.5
Selling Price	120	90	125	175	180

Note: Profit = Selling Price – Total Cost

85. For which crop is the profit percentage per ton the highest?

(a) Cotton   (b) Maize   (c) Mustard Seeds   (d) None of these

86. For how many of the given crops is the Irrigation cost more than 20% of the total cost?

(a) 0   (b) 1   (c) 2   (d) 3

87. If 1 kg of raw material of Cotton costs Rs. 54 and 200 grams of raw material is sown in 10 m2 of land, then what is the area of land required for producing 1 ton of Cotton?

(a) 2500 m^2 (b) 500 m^2 (c) 2.5 km^2 (d) 5 km^2

Directions for questions 88 to 90 : Alok, Bharti, Chaman, Dinu, Ekant and Faisal are the only people available for selection in a team. The team should have at least two people subject to the following conditions.

- If Bharti is selected then Dinu should also be selected while Ekant should be rejected.
- If Alok is selected then exactly one from Bharti and Chaman should also be selected.
- If Chaman is selected then Ekant should also be selected while Faisal should be rejected.
- If the size of the team is less than 4 then Dinu and Faisal cannot be selected together

88. If Bharti and Faisal are not selected in the team then who should definitely be selected?

(a) Chaman   (b) Ekant   (c) Dinu   (d) Alok

89. Which of the following pairs of two people cannot be selected along with any one else out of the remaining 4 people?

(a) Bharti and Dinu   b) Chaman and Ekant   (c) Dinu and Ekant   (d) Ekant and Faisal

90. If the team selected is of the maximum possible size, then who is/are definitely selected in the team?

(a) Alok (b) Dinu (c) Bharti (d) Both Alok and Dinu

91. P, Q, R, S and T were the five participants in a race. Before the race, there were five predictions made for the final positions. The predictions were:

(1) TRQPS

(2) SPTRQ

(3) SRQPT

(4) QSPTR

(5) SRQTP

The leftmost means the first position and the rightmost means the fifth position in any sequence. No prediction was completely correct. But two of them correctly predicted the position of exactly two of the runners. The remaining three predictions were incorrect for all the five participants. What was the actual outcome of the race?

(a) QPSTR (b) QPTSR (c) QTPSR (d) QPTRS

92. In a family of seven people A, B, C, D, E, F and G there is exactly one pair of twins. B is younger than F but older than E, G and D. C is younger than E but older than A and D. G is younger than F and E. Which of the following can be the pair of twins?

(a) B, C (b) A, E (c) C, G (d) F, G

93. Five men are sitting around a circular table in such a way that all of them can see each other. Each of these five men is wearing a hat the colour of which is not known to him. However, all of them are aware that the hats have to be either black or white in colour and there are at least two hats of each

colour. How many of them can deduce the colour of their hats if they are not allowed to communicate with each other?

(a) 1   (b) 2   (c) 3   (d) 4

94. The question given below is followed by two statements, A and B. Mark the answer using the following instructions:

Mark (a) if the question can be answered by using either statement alone.

Mark (b) if the question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.

Mark (c) if the question cannot be answered even by using both the statements together.

Mark (d) if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

Q. Two friends, Mubashir and Himanshu, are standing in a room in a way that Mubashir is 5 steps to the left of Door 1 and 4 steps to the right of Door 2, and Himanshu is 4 steps to the left of Door 1 and 5 steps to the right of Door 2. Each of them tosses a coin and moves one step right if the outcome is heads and moves one step left if the outcome is tails. After a series of tosses both of them stop on reaching a door

Who is at which door?

A. Mubashir gets 5 more heads than tails, and Himanshu 5 more tails than heads.

B. They stop after 17 tosses each

Directions for questions 95 to 96 : In the data given below, Table - 1 indicates the number of fruit bearing trees planted by six friends on three days - Day1, Day 2 and Day 3. Table - 2 shows the number of trees of each of the six types planted on these three days. The following conditions must be valid:

- On any given day, each of them planted only one type of tree.
- From among Ashish, Dinesh and Farhan exactly two people planted the same type of tree(s) on Day 2 and Day 3 as they planted on Day 1.
- The person who planted exactly one Orange tree on Day 3 had also planted Orange trees on each of the first two days.
- Dinesh did not plant a Banana tree on Day 2

Name	Day 1	Day 2	Day 3
Ashish	4	4	4
Bobby	2	1	2
Chetan	2	1	4
Dinesh	1	1	1
Ekant	2	1	1
Farhan	2	2	1

Tree	Day 1	Day 2	Day 3
Apple	4	4	4
Banana	2	1	2
Coconut	2	1	4
Guava	1	1	1
Mango	2	1	1
Orange	2	2	1

95. Who planted Orange trees on all the three days?

(a) Dinesh   (b) Ekant   (c) Ekant or Farhan   (d) Dinesh or Ekant

96. For how many friends can the number of trees planted of each type be conclusively determined?

(a) 3   (b) 4   (c) 5   (d) None of these

97. The question given below is followed by two statements, A and B. Mark the answer using the following instructions:

Mark (a) if the question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.

Mark (b) if the question can be answered by using either statement alone.

Mark (c) if the question cannot be answered even by using both the statements together.

Mark (d) if the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

Q. There are six brothers Steven, Gerrard, Wayne, Rooney, Frank and Lampard. Each brother has a different age. If Steven is the oldest then who is the youngest among the six brothers?

A. Rooney, who is not the youngest brother, has the same number of brothers younger than him as the number of brothers who are younger than Frank but older than Lampard.

B. Wayne has at least 3 brothers older than him. The number of brothers older than Wayne is the same as the number of brothers younger than Gerrard.

98. Four friends James, Cliff, Lars and Dave decide to watch a movie together. Each of them arrives at the movie theatre at a different time. It is also known that:

1. If James arrives before Cliff then Lars definitely arrives before Dave.

2. If Cliff arrives before Lars then James definitely arrives before Dave.

If James arrives before Lars then who cannot be the second person to arrive?

(a) James   (b) Cliff   (c) Lars   (d) Dave

99. There are four persons Kurt, Cobain, Jim and Morrison out of whom two always lie and the other two always speak the truth. Each of the four persons makes a statement which is given below.
Kurt: Cobain lies.
Cobain: Jim lies.
Jim: Kurt speaks the truth.
Morrison: Exactly two out of Kurt, Cobain and Jim lie.
Who can be the liers?

(a) Kurt and Cobain   (b) Cobain and Morrison   (c) Kurt and Jim   (d) Either (b) or (c)

100. Six people P, Q, R, S, T and V are standing in a row facing North. Further information is given below:
1. There are exactly 3 people between Q and S. One of them is T.

2. V and T are on the same side of S and there are exactly 2 people between them.

3. P is to the left of V but to the right of R.

How many people are there between R and V?

(a) 1   (b) 3   (c) 4   (d) 5

Answer Key

1.	(d)	2.	(c)	3.	(c)	4.	(b)	5.	(b)	6.	(b)
7.	(b)	8.	(d)	9.	(b)	10	(d)	11.	(c)	12.	(b)
13.	(d)	14.	(b)	15.	(c)	16.	(d)	17.	(a)	18.	(d)
19.	(a)	20.	(d)	21.	(b)	22.	(a)	23.	(b)		

Hints & Solution

1. To get one kg. of Protein we need to spend

Rs. (40x100)/50 = Rs.80 in case of Soya Products,

Rs.(60x100)/40 = Rs.150 in case of Red Meat,

Rs.(35x100)/25 = Rs.140 in case of Milk Products and

Rs.(50x100)/25 = Rs.200 in case of Cereals.

Hence, (d)

2. The cost of one gram of Carbohydrates from Soya products = (40x100)/(25x1000) = Rs.4/25

The cost of one gram of Carbohydrates from Red Meat = (60x100)/(30x1000) = Rs.2/10

The cost of one gram of Carbohydrates from Milk Products = (35x100)/(25x1000) = Rs.14/100

The cost of one gram of Carbohydrates from Cereals = (50x100)/(45x1000) = Rs. 1/9

Hence the desired ratio = $\dfrac{\dfrac{2}{10}}{\dfrac{1}{9}} = 1.80$

3. Cost of Protein per kg. from Soya Products in 2004-2005

= (50x100)/50 = Rs.100

Cost of Protein per kg. from Red Meat in 2004 – 2005

=(55x100)/40 = Rs.137.5.

Cost of Protein per kg. from Milk Products in 2004-2005

=(30x100)/25 = Rs. 120.

Cost of Protein per kg. from Cereals in 2004-2005

=(50x100)/25 = Rs.200.

Desired price =(100+137.5+120+200)/4 = Rs.140.

Hence, (c).

4. Average Protein price/kg. in 2002-2003

$$\dfrac{40 \times \dfrac{100}{50} + 60 \times \dfrac{100}{40} + 35 \times \dfrac{100}{25} + 50 \times \dfrac{100}{25}}{4} = \text{Rs.142.5}$$

Average Protein price/kg. in 2003-2004

$$\dfrac{35 \times \dfrac{100}{50} + 70 \times \dfrac{100}{40} + 45 \times \dfrac{100}{25} + 35 \times \dfrac{100}{25}}{4} = \text{Rs.141.25}$$

Hence, percentage change = 1.25/142.5x100 = 0.9

Hence, (b).

5. The desired percentage

$$= \dfrac{1 \times \dfrac{25}{100} + 2 \times \dfrac{30}{100} + 3 \times \dfrac{50}{100} + 4 \times \dfrac{30}{100}}{1+2+3+4} \times 100$$

$$= \frac{25+60+150+120}{10} = \frac{355}{10} = 35.5$$

Hence, (b).

6. (b)

7. (b)

8. (d)

9. (b)

10. (d)

Solution for 11 to 15:

For answer to questions 11 to 15:
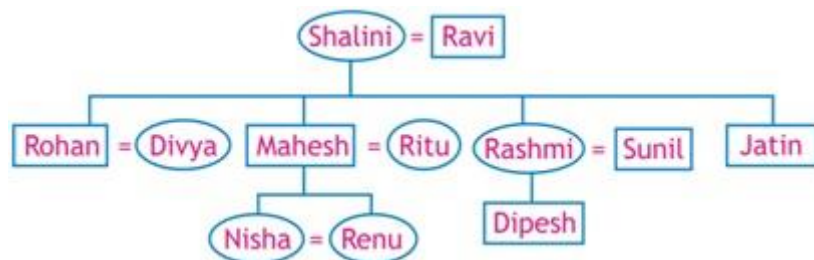
11. 3 married couples. Hence (c).

12. Dipesh is Ravi's grandson. Hence (b).

13. Mahesh and Ritu is the married couple. Hence, (d).

14. Rashmi is Renu's aunt. Hence, (b).

15. Ravi is the paternal grandfather of Renu. Hence, (c).

16. (d)

17. (a)

18. (d)

19. (a)

20. (d) Each letter in the given message is moved two steps backward to obtain the corresponding letter in the code. The last letter of the third word in the given sentence is Y, which shall be coded as W.

21. (b) Odd placed letters are moved one step backward, while even placed letters move one, two and three steps forward.

22. (a) There are two faces painted red. Hence the number of cubes painted from one face are

$$2\left(\frac{4}{1}-2\right)^3=8.$$

23. (b) There are only two faces painted green. Each green face has 4 sides and each will give two such cube painted from two faces painted, one of which is green and other is red or black. Thus each will give 8 such cubes. So 2 green faces will give 16 such cubes.

24. (c) Average =

$$\frac{(295.96+297.21+287.38+233.86+237.09+281.17)}{6}$$

= 272.11

25. (d) Sugarcane production in 2007

$$=337.41\times\frac{115}{100}=388.02\text{ million tonnes}$$

Let the required value be x%.

$$\therefore\ \frac{\text{Production in 2007}}{\text{Production in 2004}}=\left(\frac{100+x}{100}\right)^3$$

$$\Rightarrow\left(\frac{100+x}{100}\right)^3=\frac{388.02}{237.09}=1.64$$

$$\Rightarrow x = 17.85$$

26. (d) For 2001, % change

$$= \left(\frac{297.21 - 295.96}{295.96} \right) \times 100 = 0.422\%$$

For 2004, % change

$$= \left(\frac{237.09 - 233.86}{233.86} \right) \times 100 = 1.38\%$$

For 2005, % change

$$= \left(\frac{281.17 - 237.09}{237.09} \right) \times 100 = 18.59\%$$

For 2006, % change

$$= \left(\frac{337.41 - 281.17}{281.17} \right) \times 100 = 20\%$$

27. (a) Total time taken (in hrs.) to produce 5000 units each of E, F, G and H:

For Machine A

= 5000/75 + 5000/150 + 5000/125 + 5000/50

= 5000(1/75 + 1/150 + 1/125 + 1/50)

= 200(1/3 + 1/6 + 1/5 + 1/2) = 240

For Machine B :

= 5000(1/125 + 1/75 + 1/100 + 1/100)

= 200(1/5 + 1/3 + 1/4 + 1/4) = 206.67

For Machine c :

= 5000(1/100 + 1/125 + 1/125 + 1/75)

= 200(1/4 + 1/5 + 1/5 + 1/3) = 196.67(least)

For Machine d :

= 5000(1/125 + 1/75 + 1/75 + 1/125)

= 200(1/5 + 1/3 + 1/3 + 1/5) = 213.33

28. (c) Observation of the table tells us that the answer shouldbe A-F, B-E, C-G, D-H.

29. (b) Let n units of each item be produced by machine A:

Hence, $n/75 + n/150 + n/125 + n/50 = 4$

=> $n(1/75 + 1/150 + 1/125 + 1/50) = 4$

=> $(n/25)(1/3 + 1/6 + 1/5 + 1/2) = 4$

=> $n = 100/1.2 = 83.33$

Let k units of each item be produced by machine B:

Hence, $k/125 + k/75 + k/100 + k/100 = 4$

=> $k(1/125 + 1/75 + 1/100 + 1/100) = 4$

=> $(k/25)(1/5 + 1/3 + 1/4 + 1/4) = 4$

=> $k = 100/1.033 = 96.77$

At maximum, $4 \times 96 = 384$ units can be produced by machine B.

Hence, $4k = 384$

Ratio = 332 : 384 = 83 : 96.

Directions for questions 30 to 32 :

Let us analyse the scores of Match-1 first:

Runs scored by Bimal, Dinu and Elan = 88 + 72 + 60 = 220

Hence, runs scored by Arpit and Chatur = 270 – 220 = 50

Also 10% of 270 = 27

So, both Arpit and Chatur can score a maximum of 27 runs but the sum of their scores should be 50.

Arpit's score's range in Match-1 is 23–27 and subsequently Chatur's score's range in Match-1 is 27–23.

Similarly Chatur and Dinu scored 30 runs each in Match-2.

In Match-3 even though 10% of 240 = 24, as Dinu scored 20 runs, both Arpit and Bimal can score a maximum of 19 runs, but the sum of their scores should be 32.

In Match-4, Chatur and Elan combined scored 200 – 53 – 52 – 56 = 39 runs. As 10% of 200 = 20, one of Chatur or Elan scores 20 runs and the other scores 19 runs.

The table can be re-written as :

		Match-1	Match-2	Match-3	Match-4
Runs scored by player	Arpit	27–23	100	19–13	53
	Bimal	88	65	13–19	52
	Chatur	23–27	30	110	19–20
	Dinu	72	75	20	56
	Elan	60	30	78	20–19
Total		270	300	240	200

30. (a) Maximum possible runs scored by Arpit in Match-1 = 27
Maximum possible runs scored by Arpit in Match-3 = 19

Maximum possible percentage contribution:

(27+100+19+53)/(270+300+240+200)x100% = 199/1010x100%
= 19.7%

31. (b) Maximum possible total runs scored by Chatur in the four matches = 27 + 30 + 110 + 20 = 187.

In such a case minimum possible total runs scored by Arpit in the four matches = 23 + 100 + 13 + 53 = 189.

Difference = 189 – 187 = 2 (minimum possible) Subsequently total runs scored by Bimal in the four matches = 88 + 65 + 19 + 52 = 224.

Also, total runs scored by Elan in the four matches = 60 + 30 + 78 + 19 = 187

Absolute difference = 224 – 187 = 37

32. (c) Individual ranges for total score:

Arpit-> 189-199

Bimal-> 218-224

Chatur-> 182-187

Dinu-> 223

Elan-> 187-188

Least total will be of Chatur (Rank 5)

2nd least will be Elan (Rank 4)

Rank 3 must be of Arpit.

It is not possible to determine the exact ranks of Bimal and Dinu.

Directions for questions 33 to 35 :

	HP	Compaq	IBM	Sony
North Asia	4960	1440	1120	480
East Europe	285	630	330	255

West Europe	1920	780	1140	2160
North America	4260	540	720	480
South America	150	1260	990	600
East Africa	225	484	517	128
West Africa	180	1170	900	2250
South Asia	450	4050	1350	3150
Australia	650	832	364	754
Total			7431	

33. a

34. (c) Total sales in South Asia = 9000 units

Total sales in West Africa = 4500 units

Total sales in East Europe = 1500 units

Hence, the required ratio is 6 : 3 : 1.

35. (c) Statement I :

Total sales of Laptops in South America will be the sum of sales of HP, Compaq, IBM and Sony which is equal to 3000 units. So statement I is correct.

Statement II :

Sales of IBM in East Africa = 517 units

Sales of HP in West Africa = 180 units

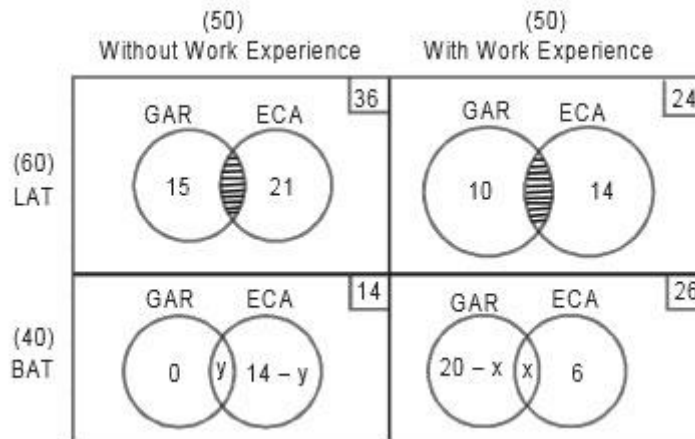Thus it is not 25% more. So statement II is incorrect.

Statement III :

Sales of Compaq in North America = 540 units

Sales of Compaq in South America = 1260 units

Ratio = 3 : 7. So statement III is correct

Directions for questions 36 to 38 : We can make the following figure based on the information given in the question.

GAR – Good Academic Record
ECA – Extra Curricular Activities

36. (d) From the figure it can be inferred that the answer must be '20 – x'. As we don't know the exact value of x the answer cannot be determined.

37. (c) must be the maximum possible value of 'y'. As the number of students who have ECA and who have also written BAT but have no Work Experience is '14 – y', we can say that the maximum possible value of 'y' must be 14.

38. (b) Answer = 21 (No Work Experience) + 14 (Work Experience) = 35

Directions for questions 39 to 41 : Total marks obtained by S1, S2, S3, S4 and S5 are 148, 125,121, 144 and 127 respectively. As Anup obtained 50 marks in Chemistry, he can be disguised either as S1 or S2.

Rohan can either be disguised as S1 or S2 and accordingly Himanshu must be disguised as either S4 or S3.

Based on the given data, we arrive at the following cases

	Case I	**Case II**	**Case III**	**Case IV**
S1	Anup	Anup	Rohan	Rohan

S2	Rohan	Rohan	Anup	Anup
S3	Himanshu	Himanshu	Vishal	Sudip
S4	Vishal	Sudip	Himanshu	Himanshu
S5	Sudip	Vishal	Sudip	Vishal

39. (d) It is clear from the above table that one of Himanshu,Vishal or Sudip is disguised as S3.

40. (d) Let us consider all the options one by one.

(i) If statement I is true then Sudip must be disguised as S5 and his total score in all three subjects must be 127.

Subsequently from Case I and Case III, Himanshu can be disguised as either S3 or S4. Hence, Himanshu's total score will be either 121 or 144. Therefore we cannot say that statement II is definitely true.

(ii) If statement II is true then Himanshu, as his score cannot be the lowest, must be disguised as S4. Now, Sudip must be disguised as either S3 or S5. Hence, Sudip's score in chemistry is either 43 or 36. Therefore we cannot say that statement I is definitely true.

(iii) If statement I is false then Sudip must be disguised as either S3 or S4. Now, if Sudip has been disguised as S3 then Himanshu must be S4 (Case IV) and his total score (144) will be more than that of Sudip (121). But if Sudip has been disguised as S4 then Himanshu must be S3 (Case II) and his total score (121) will be less than that of Sudip (144). Therefore we cannot say that statement II is definitely false.

41. (a) Himanshu obtained the highest marks in Mathematics. If we assume this to be true, then he must be S4. In both Case III and Case IV, Rohan is disguised as S1,who obtained the highest marks (148) in all the threesubjects combined.

Directions for questions 42 to 44 : Statement 1 indicates that Feroz and Himanshu are at seat number 7 and 6 respectively.

Tarun is the only person between Feroz and Shivku while Aashu is opposite Tarun (Statement 3). Hence, Aashu, Tarun and Shivku must be at seat number 5, 8 and 9 respectively.From Statement 2 we get the following figures that depict the possible seating arrangements for the 12 people:

Figure 1 (Total 2 × 2 = 4 possible seating arrangements)
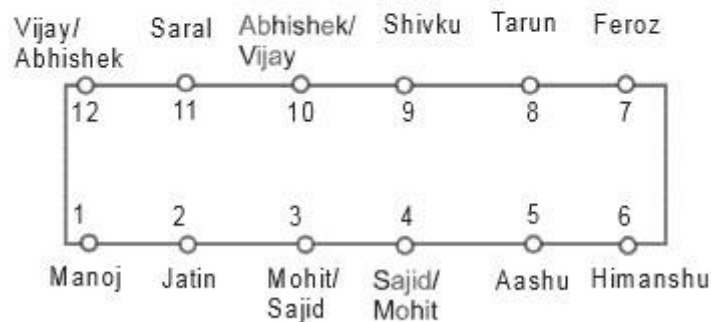
Figure 2 (Total 2 × 2 = 4 possible seating arrangements)

42. (d) If Shivku is not sitting opposite Vijay then either Vijay (from figure 1) or Jatin (from figure 2) is sitting next to Manoj.

43. (d) If Manoj is not sitting next to Vijay then there are six possible arrangements (2 from figure 1 and 4 from figure 2)

44. (a) Manoj, Feroz and Himanshu occupy three of the four corner seats and it is known that Feroz is sitting opposite Himanshu. Hence, Sajid can only sit opposite Manoj. This can also be seen from figure 1

Directions for questions 45 to 46 :

45. If the mystery novel is written by Ovattio then the arrangement looks like :

Genre	Mystery	Horror	Comedy	Thriller
Publisher	Rajveer/ Sarka	Quattchori	Purshottam	Sarkar/ Rajveer
Author	Ovattio	Lalu/Monu	Monu/Lalu	Nonu

46. The author of the mystery novel can be Lalu or Monu or Ovattio.If the author is either Lalu or Monu then the publisher can be Purshottam only. If the author is Ovattio then the publisher can be either Rajveer or Sarkar

47. (c) In terms of increasing number of candies received, the possible sequence can be:

either   Mohan < Ram < Raja < Roy or Mohan < Ram < Roy < Raja

The above order clearly shows that Ram receives at least 2 candies. Possible sets for candies received by Ram and Roy will be (2, 6) and (3, 7).

Note: The case (4, 8) etc. are not possible as then the other two values will become less than 4 each. Subsequently only possible sets for overall distribution are:

		Raja	Ram	Mohan	Roy
Number of candies	**Case 1**	7	2	1	6
	Case 2	5	3	1	7
	Case 3	4	3	2	7

Thus, Raja can have 7 or 5 or 4 candies.

∴ Maximum possible difference = 7 - 4 = 3

48. (d) According to Statement 1, B can only live on the 2nd or the 3rd floor (Statement 4 says that B does not live on 1st floor).But if B lives on the 2nd floor and hence A on the 7th, is not possible to fit in the floors for D, F, H, C and E (see Statements 2 and 3). Hence B and A must live on 3rd and 8th floor respectively. H, C and E live on 3 adjacent floors, so they must live on floors between B and A.Subsequently as D and F are also on adjacent floors, they

must live on 1st and 2nd floor (not necessarily in that order). Some of the possible distributions are:

Floor	1	2	3	4	5	6	7	8
Person	D	F	B	G	E	H	C	A
	D	F	B	C	H	E	G	A
	F	D	B	E	H	C	G	A
	F	D	B	G	C	H	E	A

It can be seen that D will live on either the 1st or the 2nd floor. Also, C's floor would be one of 4th, 5th, 6th or 7th.

So the possible values of N: 6, 5, 4, 3, 2

Total possible values of N = 5

49. (d) If Statement III made by Billu and Chiklu are not true then in that case both Amar and Billu will be having the blue ball which is not possible. Hence, Amar 's third Statement is definitely not true.
If we assume that Billu's 3rd Statement is also not true (and hence Chiklu 's is true), the arrangement will be:

Amar	Billu	Chiklu
green, blue	red, yellow	pink, black

If we assume that Chiklu's 3rd Statement is not true (and hence Billu's is true), the arrangement will be:

Amar	Billu	Chiklu
green, yellow	red, blue	pink, black

Hence, it cannot be determined

50. Let us assume that the accident happens at point A. Hence PA and AQ would be the distances covered by the train from P to A and A to Q respectively.

Let the speed (in km/min) before and after the accident be 'v' and 'u'.

Total time taken by the train had the accident not taken

place = PQ/V=(PA+AQ)/V

Total time taken by the train due to accident

= PA/V+AQ/U = PQ/V+16 = PA/V+AQ/V+16

Hence, AQ (1/u-1/v) = 16

From Statement A:
In this case let us assume that the accident happens at point B. Following a similar method as mentioned above we get:

BQ(1/U-1/V) = 21

Or (AQ+10)(1/U-1/V) = 21

From (i) and (ii):

AQ = 32 km and hence, PQ = 30 + 32 = 62 km

From Statement B:
In this case let us assume that the accident happens at point C. Following a similar method as mentioned above we get:

CQ(1/U-1/V)=20(1/U-1/V) =12

From (i) and (iii) :

AQ = 80/3 km and hence, PQ = 30 + 80/3 = 170/3 km.

So the question can be answered by using either of the statements alone.

51. (c) To find Mohan's age on 31st December, 2000 we need to find his year of birth.

From Statement A:

There are multiple possibilities for the year of birth of Mohan - 1953, 1959, 1971 etc. Hence, Statement I alone is insufficient to answer.

From Statement B:

There are multiple possibilities for the year of birth of Mohan's son - 1953, 1971, 1997 etc.Hence, Statement II alone is insufficient to answer.

Combining Statement A and Statement B:

Possible years of birth for Mohan and his son are '1959 and 1983' or'1973 and 1997'. It is still not possible to get a unique solution.Hence the question cannot be answered even by using both the statements together.

Directions for questions 52 to 56 : As Subbu performed alone in the first slot on the second day, the bands could not have performed more than 5 times. So the number of performances given by the bands was either 4 or 5. If the number of performances given by the bands was 4, then each of the four artists would have given one performance. However, in that case the sum of the number of performances given by Mitti, Kehsanloy and Kumar respectively would be 3 (a prime number), which is not possible. So the number of performances given by the bands as well as by the artists must be 5. The number of performances given by Delhi Sea and Mitti must be the same and it should be 1 each only. The number of performances given by GTH was 3. Either Kehsanloy or Kumar gave 2 performances and the rest 3 artists gave 1 performance each.

As the last performance of Shankar was held before the first performance of GTH, Delhi Sea and Mitti must have performed successively in the first two slots on the first day. Shankar must have performed in either the first slot or the second slot on the first day.

The conclusions made thus far can be tabulated as given below.

Slot / Day	Slot-1	Slot-2	Slot-3
Day-1	-	-	-
	Delhi Sea	Mitti	GTH
Day- 2	Subbu	-	-
	NA	GTH	GTH

52. (c) The given information can be tabulated as:

Slot / Day	Slot-1	Slot-2	Slot-3
Day-1	Shankar	NA	Kehsanloy
	Delhi Sea	Mitti	GTH
Day- 2	Subbu	Kumar	Kehsanloy
	NA	GTH	GTH

53. (b) Kumar must definitely have performed with GTH as GTH performed in both the second and the third slot on the second day.

54. (d) All the given statements could be true.

55. From Statement A:

As the sum of the number of parking slots in Mohit's house and Pranab's house is an even number, the number of parking slots in each of Pavan, Pranab and Mohit's house is one and the number of parking slots in Santosh's house is two. Also, Santosh must be staying in the second largest house. Hence, this statement alone can answer the question.

From Statement B:

The houses of Pavan, Pranab, Mohit and Santosh have three, three, five and two parking slots respectively. It is also known that the largest house cannot have five parking slots. But we cannot deduce anything about the second largest house. Hence, this statement alone cannot answer the question.

56. It can be concluded that nobody except Bhanu and Deepak likes Dancing as the number of children who like Dancing cannot be more than two. Also, Deepak doesn't like Rowing and Running, both of which are liked by Aman. SInce Deepak likes Sketching, it is not liked by both Aman and Bhanu. So Chaman and Elhan like Sketching. The conclusions made thus far can be tabulated as shown below.

	Rowing	Singing	Dancing	Sketching	Running
Aman	Yes		No	No	Yes
Bhanu			Yes	No	
Chaman			No	Yes	
Deepak	No		Yes	Yes	No
Elhan			No	Yes	

The two children who like exactly the same set of activities must be Chaman and Elhan (this can be seen from the table). Since at least three children like Running, Chaman and Elhan must be two of them. It cannot be determined whether Bhanu likes Running or not.

Directions for questions 57 to 62 : Let $N(1) = N(6) = a$, $N(2) = N(5) = b$, $N(3) = c$ and $N(4) = d$. Here a, b and c are distinct (as given). Also, b and d cannot be the same. Hence, $2a + 2b + c + d = 10$ (the total number of people).
$\Rightarrow 2(a + b) + c + d = 10$

The least possible value of 'a + b' is 3 and it is evident from the above equation that none among a, b, c and d can be greater than or equal to 4. The

only possible integer solution to the above equation is when a, b, c and d are equal 1, 2, 3 and 1 respectively.

The following table can thus be concluded:

	Number of occupants	Name of the occupants
Floor 6	1	?
Floor 5	2	?
Floor 4	1	?
Floor 3	3	?
Floor 2	2	?
Floor 1	1	?

From statement (ii) and the above table it is evident that Chuck's floor number is greater than 3 and hence from statement (i) and the above table it can be concluded that Chuck and Berry

live on floor 5. Subsequently, Kirk and David live on floor 4 and floor 3 respectively. Clapton, Jimmy and Hammett must occupy floor 1 and floor 2 (in no particular order), as they live below

David. From statement (iii) it can be concluded that Gilmour and Page live on floor 3 with David. Finally, it can be concluded from statement (iv) that Jimmy and Eric live on floor 1 and floor

6 respectively. The table can be completed as given below.

	Number of occupants	Name of the occupants
Floor 6	1	Eric
Floor 5	2	Chuck, Berry
Floor 4	1	Kirk
Floor 3	3	David, Gilmour, Page
Floor 2	2	Clapton, Hammett

Floor 1	1	Jimmy

57. (b) Difference = 3 – 2 = 1

58. (a) Eric lives on floor 6

59. (c) Jimmy lives alone on floor 1. The rest 9 people live on floors higher than his.

60.(c) he sequence should start with sentence C as it introduces a topic– the repercussions of the art-market boom. C is followed by E (as there is a reference in the plural) and both sentences are linked with the reference to museums. E also is an elaboration of the point being made in sentence C. D and A are clearly linked through the reference to the annual booklet. B comes in as the ending sentence as it mentions the consequence of the weakening in the buying power of museums. The correct sequence is CEDAB, option (c).

61. From (iii), as Shama and Hema are in the same car, Radha must be in a different car. From (v), either Divya or Charu must be in the same car as Radha and the other must be in the same car as Kiran. As Vicky cannot be in the same car as Hema, Kiran or Charu, he must be in the same car as Radha and Divya. From (i), Hari and Naresh are in the same car with Shama and Hema. Further analysis leads to the following table:
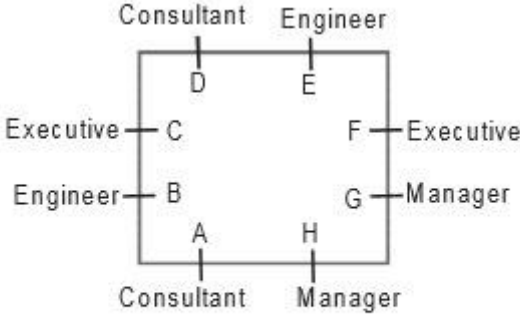
Case I
Car I:
Radha-Pankaj
Divya-Vicky
Car II:
Shama-Hari
Hema-Naresh
Car III:
Charu-Kartik

Kiran-Chetan

Case II
Car I:
Radha-Vicky
Divya-Pankaj
Car II:
Shama-Hari
Hema-Naresh
Car III:
Charu-Kartik
Kiran-Chetan

62. Let Anu, Bindu, Candy, Dolly, Emran, Fiza, Gauri and Hemant be represented by A, B, C, D, E, F, G and H respectively. The only possible arrangement is shown below.

Hence, none of the statements is false.

Directions for questions 63 to 64 : Let the total money spent in 2006 be x and the money spent in 2007 be y.

64. (d) For India: 12% of x = 15% of y $\Rightarrow 4x = 5y$

For China in 2006, 16% of x = 16%$\times$ 5y/4 = 20% of y

Let the percentage of money spent in China in the year 2007 be p.

p% of y = 25% of 20% of y⇒p = 5

65. (a) The percentage of money spent in Britain, America and Africa together in 2006 = 60%

The percentage of money spent in Britain, America and Africa together in 2007 = 70%

60% of x – 70% of y = 32

60% of –5y/4- 70% of y = 32

5% of y = 32

y = 640 dollars

The percentage of money spent in Australia in the year 2007 = 100% – 90% = 10% of 640 = 64 dollars.

Directions for questions 65 to 67 :

65. (b) The Unhealthiness Index is maximum for the year 2003 and the value is
= 2,00,000x(1.2)(0.85)(1.1)(1.2)/5200=51.8

**66. (c)** The number of patients in 2008 = The number of patients in 2006 × (0.7)2 which comes out to be 95,596.
The number of hospitals in 2008 will be = 5700× (1.1)2 = 6897

Therefore, Unhealthiness Index 95,596/6897= 13.86

67.(d) As per the given data (using graph information), the number of patients in 2006 = 1,95,093. The number of patients in 2007 will be 1,95,093 × 0.6= 1,17,056. To have an Unhealthiness Index of 15, the number of hospitals needed will be 1,17,056/15 = 7804. Therefore the percentage increase needed in the number of hospitals will be (7804 – 5700)/5700 ×100= 36.9%
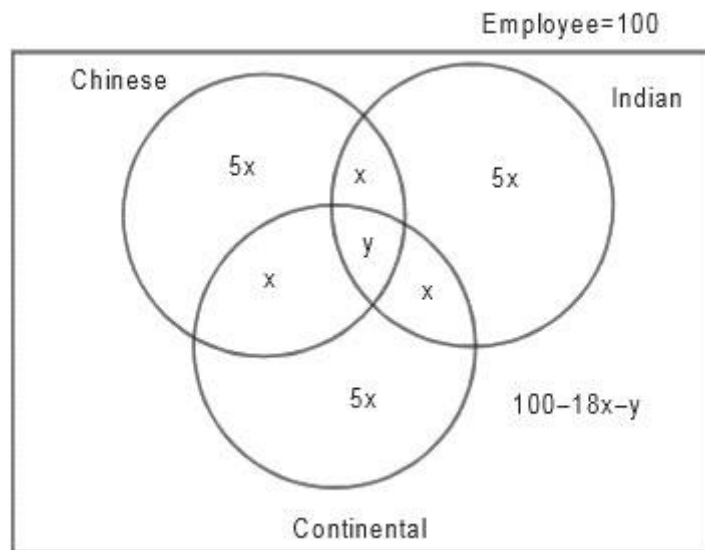
The number of employees who are not chefs = 100 –18x – y

68. (b) 100 – 18x– y = 40

and y = 6⇒18x = 54⇒x = 3

The number of chefs who can't make Continental= 15 + 15 + 3 = 33

69. (c) 100– 18x– y > 5x⇒23x + y < 100

The maximum possible values of x is 4.

Hence, the maximum possible number of chefs who can make exactly one cuisine = 15✕ 4 = 60

Directions for questions 70 to 72 : From Statement (i): The person who likes B_4 also likes C_1.

From Statement (ii): M_3 does not like C_3. Also, the person who likes B_3 likes his own car.

Using Statement (i) and (i): The 2 possible cases are:

Case I: M_2 likes B_3 and C_2.

Using Statement (i), we can say that M_4 does not like B_4.Hence M_3 likes B_4 and C_1

	M_1	M_2	M_3	M_4
Likes the bike		B_3	B_4	
Likes the car		C_2	C_1	

But in this case B_3 should be liked by M_1, which is not true. So this case is not possible.

Case II: M_4 likes B_3 and C_4.

B_4 cannot be liked by M_3 and so B_4 is liked by M_2

	M_1	M_2	M_3	M_4
Likes the bike	B_2	B_4	B_1	B_3
Likes the car	C_3	C_1	C_2	C_4

So the complete table looks like:

	M_1	M_2	M_3	M_4
Likes the bike		B_4		B_3
Likes the car		C_1	C_1	C_4

70. (d)

71. (b)

72. (c)

Directions for questions 73 to 74 : A, C, E and F can be arranged amongst themselves in two ways:

```
A    EF   C  ——— (1)
EF   A    C  ——— (2)
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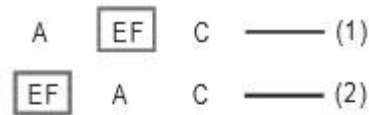
Now when B and D are also put into these two arrangements, there would be 3 cases in each arrangement.

```
B D A E F C          ............... 1a
B A D E F C          ............... 1b
A B D E F C          ............... 1c

B D E F A C          ............... 2a
B E F D A C          ............... 2a
E F B D A C          ............... 2c
```

73. (c) Akhil can sit in 4 different positions - 1, 2, 3, 5 (from the left).

74. (c) There are two such cases - 1c and 2a

75. (a) Irrespective of whether a person is from Jupiter or Earth, he would always say that he is not from Jupiter. Hence, Sharad has spoken the truth about Lallu. But Budha says that Sharad is from Jupiter (and hence a lier). So Budha has definitely lied and Budha himself must be from Jupiter.

76. (a) Let us assume that the number of goals scored by Rooney, Messi and Torres before the World Cup are R, M and T respectively.

$\therefore R + 7 = T$ and $T + 8 = 2M$

From Statement A:

$R + M = 21$

By solving the equations we get the values:$R = 9$, $M = 12$ and $T = 16$.

From Statement B:

Absolute difference between goals scored by Rooney and Messi is 3.

$\therefore R - M = 3$ or $M - R = 3$.

So either 'R = 21, M = 18 and T = 28' or 'R = 9, M = 12 and T = 16'.

We do not get a unique set of values.

Hence, the question can be answered by using Statement A alone but not by using Statement B alone

77. (d) If P is true then S is true. (Given) So if S is false then P must be false. ...(1)

If both R and S are true then T is false. (Given) So if T is true then atleast one of R and S must be false. ...(2)

Conclusion (2) can be re-written as follows using Conclusion (1):

If T is true then atleast one of R and P must be false.

78. (d) Both Team 1 and Team 2 have 1 girl and 2 boys each. So among A, C, E, B, D and F there are 2 girls and 4 boys. So the remaining person i.e. G must be a girl. Similarly, from Team 3 and Team 4 we can find out that C must be a girl. Also, A must be a boy as he is there with C in Team 1.

79. (d) Let us write down all the possible ranks for each of the persons in a tabular form.'0' denotes a rank which is not in the top 3.

	A	B	C	D	E
Using only basic information	0/1	0/2/3	0/1/3	0/1/2/3	0/1/2/3
Using Statement A	0/1	0/3	0/1/3	2	0/1/3
Using Statement B	0/1	0/2/3	0/1/3	0/1/2/3	2/3
Using Statement A and B together	0/1	0	0/1	2	3

Hence, the exact ranks of A and C cannot be found out even after combining the two statements.

Directions for questions 80 to 81 :

80. (c) We can say that the total fare of : Delni-Bhokal + Bhokal-Mumtai = Mumtai-Delni + Rs.125.

Hence, the variable fare of: Delni-Bhokal + Bhokal-Mumtai = Mumtai-Delni + Rs.65.

This is possible only if Mumtai-Delni falls in the distance range 1001 – 1800 km (Rs. 340).

One of Delni-Bhokal and Bhokal-Mumtai falls in the range 151 – 500 km (Rs. 155) and the other falls in the range 501 – 1000 km (Rs. 250).

81.(c) Yatri Kumar must have travelled in a Passenger train.

First day: Fare in the Sleeper Class for the distance range 1001 – 1800 km = Rs. 160 + Rs. 60 = Rs. 220.

Second day: Fare in the Air Conditioned Class for the distance range ≤150 km = Rs. 120 + Rs. 100 = Rs. 220.

Directions for questions 82 to 84 :

82. (a) a Absolute percentage change in the total sales of Naruti uzuki Ltd. from pril to July =(5670 - 5250)/5250 x 100 = 8%

Absolute percentage change in sales of Dwift from April to July 75-69/75 x 100=8%

83. (d) Sales of the other car models of Naruti Kuzuki Ltd. in May 2010 = 549000 – (50 + 72 + 51 + 52)×1000= 324 × 103

Sales of the other car models of Naruti Kuzuki Ltd. in July 2010 = 567000 – (42 + 63 + 33 + 69) × 1000 = 360 × 103

Percentage increase

(360-324)/324x 100 = 11.11%

84. (b) The ratio of the sales of Sezire to the total sales of cars by Naruti Kuzuki Ltd. in:

April = (49X1000)/(5250x100)=7/75

May = (72X1000)/(5290x100)=8/61

June = (72X1000)/(5580x100)=8/62

July = (63X1000)/(5670x100)=1/9

So the ratio is the highest for May.

Commodities	Maize	Rice	Sugar Cane	Cotton	Mustard Seeds
Total production cost (Rs. lakhs)	90	75	105	160	140
Profit per ton (Rs. lakhs)	30	15	20	15	40

85.(b) Profit percentage per ton for :

Maize = 30/90x100 = 33.33%

Rice = 15/75x100 = 20%

Sugar Cane = 20/105x100 = 19.05%

Cotton = 15/160x100 = 9.375%

Mustard seeds = 40/140x100 = 28.75%

So the profit percentage per ton is the highest for Maize

86. (c) Two - Sugar Cane and Cotton.

87.(c) Total quantity of raw material used in production of 1 ton of Cotton

$= (27 \times 10^5)/54 = 50,000$ kg

The total area of land required

$=10/200 \times 50,000 \times 10^3$

$=2500000$ m^2 $= 2.5$ km^2

Directions for questions 88 to 90 : Let's first form as many teams as possible out of the six people Alok (A), Bharti (B), Chaman (C), Dinu (D), Ekant (E) and Faisal (F).

Teams with 2 members :

A cannot be in any such team as otherwise at least one of B and C must be selected and then subsequently one of D and E must be selected as well (hence exceeding 2 member size). Possible teams are:

1. B, D
2. C, E
3. D, E
4. E, F

Teams with 3 members :

5. A, C, E
6. A, B, D
7. C, E, D

Teams with 4 members :

8. A, B, D, F
9. A, C, E, D

Note: No other team size is possible

88. (b) Possible teams without B and F are:

1. C, E
2. D, E
3. A, C, E
4. C, E, D
5. A, C, E, D

We can see that Ekant (E) should definitely be selected.

89. (d) Ekant (E) and Faisal (F) (team number 4) appear together only once and their pair is not selected with any one else out of the remaining 4 people.

90. (d) Team selected must be either A, B, D, F (team number 8) or A, C, E, D (team number 9) We can see that Alok (A) and Dinu (D) both are definitely selected in the team

91. (b)

Positions	1	2	3	4	5
Positions1	T	R	Q	P	S
Positions2	S	P	T	R	Q
Positions3	S	R	Q	P	T
Positions4	Q	S	P	T	R
Positions5	S	R	Q	T	P

S cannot be at the 1st position as it has been predicted by three persons. Similarly R and Q cannot be at the 2nd and the 3rd positions respectively. So in Prediction 3 the first three positions are definitely incorrect. Now if we assume that exactly two positions are correct in Prediction 3 then P is at the 4th position and T must be at the 5th position. But as a result 4th becomes the only correct position in Prediction 1 which is not possible. Hence all the positions in Prediction 3 must be incorrect. Similarly all the positions in Prediction 1 and Prediction 5 can also be proved incorrect and Prediction 2 and Prediction 4 have exactly two correct positions each. Now it can be answered by observing the options.

Alternate solution:

The options 'QPSTR' and 'QTPSR' cannot be correct as in both the cases Prediction 4 would have given the correct positions for three runners which would contradict the information given in the question. Similarly the option 'QPTRS' cannot be correct as Prediction 4 would have given the correct position for only one runner. The only option left is 'QPTSR' which must be correct.

92. (c) From the first statement: E, G, D < B < F

From the second statement: A, D < C < E

From the third statement: G < F, E

Combining the three statements we get:

A, D < C < E < B < F

G < E < B < F

C, G is the only possible pair of twins from the given options

93. (b) Two men will see three hats of the same colour, and one hat of a different colour. Since they know that there cannot be four hats of the same colour, they can deduce that their hat colour is the same as that of the man with the different coloured hat. So two people will know their hat colour. The other three people will see two black and two white hats and so they won't be able to know the colour of their own hats.
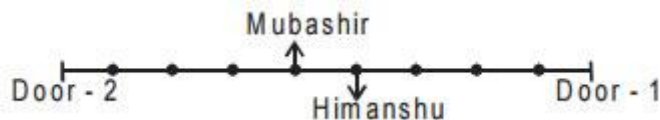
94. (a)

From Statement A:

Mubashir would be at Door 1 and Himanshu at Door 2.

From Statement B:

If one stops after an odd number of tosses he should be at the door which is odd number of steps away from him initially. Hence, Mubashir and Himanshu should be at Door 1 and Door 2 respectively. Hence the question can be answered by either Statement alone

Directions for questions 95 to 96 : From Table-2 the number of Orange trees planted on Day 3 is 7. Therefore, Bobby (B) and Chetan (C) must have planted Orange trees on Day 3. From Table-1 and Table-2, Ashish (A)planted Coconut trees on Day 1 and Day 2. Dinesh (D) planted a Mango tree on Day 1. Therefore, A and D could not have planted Orange trees on all the three days. Farhan (F) could not have planted Orange trees on all the three days as only 1 Orange tree was planted on Day 2, while he had planted 2 trees on Day 2. Therefore, only Ekant (E) is left who must have planted 1 Orange tree on Day 3 and also planted Orange trees on Day 1 and Day2.

Exactly two people out of A, D and F planted the same type of tree on all the three days; the possible person-tree combinations in such a case could be: A-Coconut, D-Mango, F-Guava. Exactly 2 out of the given 3 combinations are true. On Day 3, they definitely planted these types only, as otherwise the given condition could not be true. So A is definitely one of the persons who planted the same type of tree on all the three days.

On Day 2, D did not plant Apple, Banana, Coconut or Orange tree. D could not have planted a Guava tree on Day 2 as in that case even F would not be able to plant Guava trees on all the three days. Therefore D must have planted 1 Mango tree on Day 2. Therefore, D is the other person to have planted the same type of tree on all the three days.

Name	Day 1	Day 2	Day 3
Ashish	4 (Coconut)	4 (Coconut)	1 (Coconut)
Bobby	2	1	2 (Orange)
Chetan	2	1	4 (Orange)
Dinesh	1 (Mango)	1 (Mango)	1 (Mango)
Ekant	2 (Orange)	1 (Orange)	1 (Orange)
Farhan	2	2	1 (Guava)

95. (b)

96. (a)

97. (d) From Statement A:

Some of the cases possible according to Statement A are given below (left to right in the decreasing order of ages):

1. Steven Frank Wayne Lampard Rooney Gerrard

2. Steven Frank Wayne Rooney Lampard Gerrard

3. Steven Frank Rooney Wayne Gerrard Lampard

Clearly, Statement A is insufficient to find who is the youngest among the 6 brothers.

From Statement B:
The following are the only two possibilities for the correct order of the decreasing ages (left to right) for the brothers which can be derived from Statement B:

1. Steven _____ Gerrard Wayne _____ _____
2. Steven Gerrard _____ _____ Wayne _____

The exact place for Frank, Lampard and Rooney cannot be decided in the above two arrangements.

Combining Statement A and Statement B:
The only possible order (left to right in the decreasing order of ages) is:

Steven Gerrard Frank Rooney Wayne Lampard So Lampard is the youngest. Hence, the question can be answered by using both the statements together, but cannot be answered by using either statement alone.

98.(d) If James arrived before Lars then following possibilities exist (left to right in the order of arrival):
1. James, Lars, _____, _____

2. James, _____, Lars, _____

3. James, _____, _____, Lars (this possibility gives no arrangement)

4. _____, James, Lars, _____

5. _____, James, _____, Lars

6. _____, _____, James, Lars (this possibility gives no arrangement)

The only arrangements possible for the order of their arrival are:

I. James, Lars, Cliff, Dave (from 1)

II. James, Lars, Dave, Cliff (from 1)

III. James, Cliff, Lars, Dave (from 2)

IV. Cliff, James, Lars, Dave (from 4)

V. Cliff, James, Dave, Lars (from 5)

From the above 5 possible arrangements it is evident that Dave could never be the 2nd friend to arrive.

99.(d) Case 1: Kurt and Cobain lie.
This is not possible as then according to Kurt's statement Cobain must speak the truth.

Case 2: Cobain and Morrison lie.
This is possible.

Case 3: Kurt and Jim lie.
This is possible.

100. (b) The following arrangement is possible
S R T P Q V

There are exactly 3 people between R and V.