LR Workshop

Workshop 2015 LR File

Directions for questions 1 to 3: Answer these questions based on the information given below:

Six persons P,Q,R,S,T and U are sitting in a row facing North. Further it is known that:

(1) Exactly two persons are sitting between P and Q.

(2) Exactly one person is sitting between T and U.

(3) Q is sitting at the right end of the row.

1. If U is sitting adjacent to S, then how many persons are sitting between U and R?

1. One 2. Two 3. Three 4. Cannot be determined

2. If S is sitting to the immediate right of T, then who is sitting second to the right of R?

1. P 2. T 3. U 4. S

3. Who among the following cannot be adjacent to T?

1. P 2. R 3. S 4. None of these

4. Five horses ran in the race. There were no ties. Sikandar did not come first. Star was neither first nor last. Mughal Glory came in one place after Sikandar. Zozo was not second. Rangila was two places below Zozo. Who finished second?

1. Sikandar 2. Star 3. Mughal Glory 4. Rangila

Directions for questions 5 to 7: Answer these questions based on the information given below:

Four people- Abbu, Babbu, Chabbu and Dabbu went to a museum on a Sunday. No two of them reached the museum at the same time. They were wearing caps of different colours among Purple, Red, White and Yellow, in no particular order. It is also known that:

1. Chabbu was not the first one to reach the museum and he was wearing the Red cap.

2. The person wearing the yellow cap reached the museum earlier than Babbu.

3. The person wearing the white cap was not the last one to reach the museum.

4. Abbu was not wearing the yellow cap.

5. The person wearing the purple cap reached the museum earlier than the person wearing the white cap.

6. Abbu reached the museum before Dabbu

5. Who among the four was wearing the white cap?

1. Abbu 2. Babbu 3. Chabbu 4. Dabbu

6. Who among the four was the last to reach the museum?

1. Abbu 2. Babbu 3. Chabbu 4. Dabbu

7. Which of the following statement(s) is/are correct?

I. Dabbu was wearing the Yellow cap and he reached the museum before Chabbu.

II. Abbu was wearing the White cap and he reached the museum before Chabbu.

1. Only I 2. Only II 3. Neither I nor II 4. Both I and II

Directions for questions 8 to 10: Answer these questions based on the information given below:

Eight houses of eight different colours –red, yellow, green, blue, violet, pink, brown and white are on two sides of a road. There are four houses on each side of the road and each house is facing another house on the other side of the road. Further the following information is known about the houses.

1. The pink coloured house is diagonally opposite to the brown coloured house and they are at the extremes.

2. The red coloured house is opposite to the yellow coloured house and is in the same side as the green coloured house.

3. The violet coloured house is opposite to the white coloured house but is not on the same side as the blue coloured house.

4. The blue and brown coloured houses are on the same side of the road.

8. What is the colour of the second pair of diagonally opposite houses?

1. Yellow and green 2. Blue and red 3. Blue and green 4. Red and white

9. Which of the following mentions the colours of two houses, which are on the same side of the road?

1. Violet and yellow 2. Red and brown 3. Brown and violet 4. Pink and green

10. How many houses are there in between the blue and brown coloured houses?

1. 0 2. 1 3. 2 4. Cannot be determined

Directions for questions 11 to 13: Answer these questions based on the information given below:

Each of the six person- john, Ted, Humpty, Dumpty, Jack and Jill is from one different country among India, Japan, China, Australia, America and England and are sitting around a circular table, may not be in the same order. Further, it is known that:

1. John, who is from China is sitting adjacent to American, who is not Humpty.

2. Ted is not an Indian and Chinese is not sitting adjacent to Indian. The person from England is sitting one place away to the left of the Australian.

3. Humpty is sitting opposite to the Indian, who is adjacent to the Japanese.

4. Australian and Dumpty are sitting opposite to each other.

5. Jack is not from India and Ted is not from Japan but both are not adjacent to each other.

11. Who among them is from India?

1. Jill 2. Dumpty 3. Humpty 4. None of these

12. If Jack is the Japanese, then who is sitting opposite the American?

1. Jill 2. Ted 3. Jack 4. Dumpty

13. Which country does Humpty belong to?

1. Japan 2. Australia 3. America 4. England

Directions for questions 14 to 18: Answer these questions based on the information given below:

Six managers of a company held a round-table discussion about the goals of the organization. There were three main opinions and the managers who sat opposite to each other found themselves in agreement. Their first names were Jayanta, Reema, Eshan, Rajeev, Kunal and Rohit whereas the last names were Metha, khatri, Chandra, Sharma, Saha and Bhatia (not necessarily in that order)

A. Rohit sat on Chandra's right and Rajeev on Saha's left.
B. Reema majored in Producton and Mehta in Marketing.
C. Neither Bhatia nor Khatri held the opinion—"new norms should be implemented".
D. The Sales major and the P & I major sat opposite to Jayanta and Rajeev respectively, and both of them had distinct opinions.
E. The manager who majored in Marketing sat on Eshan's left.
F. Eshan was not one of the two who favoured the opinion "expand the market".
G. The manager on Eshan's right majored in Sales and the one on Jayanta's left majored in QC.
H. Kunal sat opposite to Khatri.
I. Sharma found that the one who agreed with him majored in R & D.

14. Who sat opposite to the person majored in QC?

1. Rohit 2. Production Major 3. Kunal Saha

4. Eshan Chandra 5. Jayanta Khartri

15. Who among the following had favoured the opinion "expand the market"?

1. Rajeev 2. Reema 3. Rohit 4. Jayanta 5. Cannot be determined

16. Who is sitting between Reema and Mr. Bhatia?

1. Jayanta
2. Mr. Mehta
3. Rohit
4. No one
5. Cannot be determined

17. Who among the following sat next to the manger who majored in R & D?

1. Mr. Khatri
2. Mr. Sharma
3. Mr. Saha
4. Mr. Mehta
5. Cannot be determined

18. Which of the following statements is correct?

1. Jayanta agreed with Reema.
2. Kunal had majored in P & I.
3. Rohit was of the opinion that new norms should be implemented.
4. Kunal sat between Khatri and Eshan.
5. Kunal sat between Khatri and Reema

Directions for Questions 19 to 23: Answer the questions on the basis of the information given below. Kuki, Kukoo, Kukad, Kokki and Kook are five hens. Initially they had 1, 2, 3, 4, 5 eggs, not necessarily in that order. They laid 1, 2, 3, 4, 5 eggs and finally had 4, 5, 6, 7, 8 eggs in the end. Further information regarding them is given:

- Initially Kokki had 2 eggs and ended up with 7 eggs at the end.
- Kukoo laid 3 eggs and did not end in 8 eggs.
- Kook did not lay 1 egg or 2 eggs.
- Kuki ended with the number of eggs Kukad started with.

19. How many eggs did the hen that started with 3 eggs lay?

a. 1 b. 2 c. 3

d. 4 e. Cannot be determined

20. How many eggs did the then that ended with 6 eggs lay?

a. 7 b. 4 c. 3

d. 2 e. 1

21. What was the name of the hen that laid 1 egg?

a. Kuki b. Kukoo c. Kukad

d. Either Kuki or Kukoo e. Either Kukoo or Kukad

22. The hen that ended with maximum number of eggs stated with___number of eggs.

a. 1 b. 3 c. 2

d. 5 e. 4

23. What is the ration of the number of eggs with Kuki at the start to number of eggs laid by Kokki?

a. 1 : 1 b. 3 : 5 c. 3 : 2

d. 1 : 3 e. 2 : 3

Directions for Questions 24 to 26: Answer the questions on the basis of the information given below

In the annual business conference of TathaGat, the regional heads of the following divisions-North, South, west, East and Central congregated. The observations were as follows:

I. South and West regional heads spoke English. But when the regional head of East joined them, they started talking in Bengali, the only common language among the three.
II. The only language common among North, South and Central is Hindi.

III. The only language common among between West and Central was Marathi.

IV. Three regional heads speak Urdu.

V. The language spoken by most number of regional heads was Bengali.
VI. One head spoke all the five languages, another one spoke four languages only, one spoke three languages only, one spoke two languages only and one spoke only one language.

24. Which regional head can speak all the languages?

a. North b. South c. West d. Central e. Cannot be determined

25. What is the language spoken by least number of regional heads?

a. Marathi b. Urdu c. English d. Hindi e. Cannot be determined

26. What are the common languages spoken by the regional heads from North and West?

a. Hindi and Urdu b. Bengali and Urdu c. Hindi,Marathi and Urdu

d. Hindi and Bengali e. None of these

Direction for Questions 27 to 31: Answer the questions on the basis of the information given below.

A fortune teller has a unique way of predicting his customer's fate. He has kept three parrots in three different cages. Each cage also has three cards with a single digit non-zero number inscribed on every card. No tow cards have the same number and no cages contain two cards with digits summing to ten. Further the total of the numbers on the three cards in the first cage is greater by two than the second and by four than the third. When a customer asks for his prognosis, the fortune teller lets out the three parrots which randomly pick one card out of their respective cages. Before the prognosis is made, the fortune teller totals the digits on the three cards picked out and charges the customer the same number of rupees as the total of the cards. One day a customer paid seven rupees for his prognosis.

27. What is the lowest payment possible?

a. Rs. 5 b. Rs. 7 c. Rs. 6 d. Rs. 8
e. Rs. 4

28. What is the maximum sum of money that someone may pay?

a. Rs. 22 b. Rs. 23 c. Rs. 24 d. Rs. 21
e. Rs. 20

29. Which of the following combinations of three cards chosen for prognosis is impossible?

a. 1, 2, 3 b. 5, 8, 9 c. 7, 2, 3 d. 5, 7, 6
e. 1, 4, 9

30. Which of the given combinations of cards picked out for prognosis may be possible?

a. 5, 7, 8 b. 7, 9, 4 c. 2, 6, 3 d. 1, 3, 8
e. 5, 6, 9

31. Which of the following payments can never be made by any customer?

a. Rs. 19 b. Rs. 16 c. Rs. 17 d. Rs. 23
e. Rs. 21

Direction for Questions 32 to 36: Answer the questions on the basis of the information given below.

The fitness school marathon attracted 16 entrants (including spots wiz) this year. Each of the five houses (IIM-A, IIM-B, IIM-C, IIM-L, and IIM-K) was represented by a team of 3 runners and the field was made up by the sports wiz, Luta Raug. The school houses were competing for the trophy. The number of points by each entrant would be equal to his finishing positions.

The five houses were tied for the cup, their totals being equal, although no two entrants tied for the same position. In order to determine the order in which the houses would hold the cup (they agreed to hold it for 73 days each), they multiplied the finishers' positions together in each house. The house with the smallest product, IIM-K, would hold the cup first and so on to the house with the largest product, IIM-A, which held it last. Unfortunately IIM-B and IIM-C houses were still tied and had to be separated by the toss of coin.

Luta Raug later noted that no house had two finishers in consecutive positions, although IIM-B would have achieved this had he not managed to get in between two of their runners.

32. The possible position of Luta Raug is

a. 1 only b. 6 only c. 11 only d. 6 or 11
e. 16 only

33. The possible positions of IIM-C are

a. 4, 6, 15 b. 3, 10, 12 c. 3, 5, 12 d. 6, 11, 16
e. None of these

34. The product of IIM-K is

a. 180 b. 360 c. 120 d. 220
e. 128

35. The product of IIM-A is

a. 180 b. 320 c. 214 d. 455
e. 198

36. IIM-L's positions are

a. 2, 8, 14 b. 2, 9, 14 c. 3, 8, 15 d. 1, 8, 13
e. 2, 8, 13

DIRECTIONS for questions 37-40: Answer the questions on the basis of the information given below. (Missing Numbers)

The formula 5 championships have five races in an year, where, in each race, the persons who finished the race in the 1^{st}, 2^{nd}, 3^{rd}, 4^{th}, 5^{th} and 6^{th} positions get 10, 8, 6, 4, 2 and 1 points respectively. The following table gives partial information about the positions of the top four persons (in terms of total points scored in all the five races put together in each of the five races. For each row (i.e., race), the last column gives the total number of points scored by these four persons together in that race.

Race	A	B	C	D	Total Points
1		1			21
2			3		22
3				2	20
4	2				19
5			4		23

(i) In each race, exactly two of these four persons finished the race within the first three positions.
(ii) Each of the four persons finished each of the five races in one of the top six positions.
(iii) No two persons finished in the same position in any race.
(iv) No person finished two or more of the five races in the same position.

37. In which position did B finish the race 2?
a. 1st b. 4th c. 5th d. 6th e. Cannot be determined

38. How many points did C get in all the five races put together?
a. 21 b. 23 c. 25 d. 27 e. 30

39. Who among the four, got highest total number of points in all the five races put together?
a. A b. B c. C d. D e. Cannot be determined

40. If the total number of points scored by D is more than that scored by A, then in which position did A finish the race 2?
a. 1st b. 3rd c. 4th d. 5th e. 6th

Questions 41 - 45 Answer the questions on the basis of the information given below.

From a normal pack of playing cards, Ankit, Sanjeev, Kumar, and Rajat were each dealt an ace, a king, a queen, a jack and a ten. Kumar's five cards were in 3 different suits and consisted of 3 red and 2 black cards.

Rajat's five cards were also in three different suits, his ace being in the same suit as his queen, and his king in the same suit as his jack. Sanjeev held more than one black card. Ankit's five cards were all in the same suit.

Kumar held the king of spades, and Rajat the ten of diamonds.

41. Among them, Sanjeev, Kumar and Rajat held….black cards.

a. 6 b. 7 c. 8 d. 9 e. 10

42. Who held the queen of hearts?

a. Rajat b. Kumar c. Sanjeev d. Ankit

e. Cannot be determined

43. Who held the ace of diamonds?

a. Rajat b. Kumar c. Sanjeev d. Ankit
e. Cannot be determined

44. Who held the king of diamonds?

a. Rajat b. Kumar c. Sanjeev d. Ankit
e. Cannot be determined

45. Ankit's five cards are all

a. Hearts b. Spades c. Clubs d. Diamonds e. Cannot be determined

Directions for questions 46-48: Answer these questions based on the information given below:

Eight students – A, B, C , D, E, F, G, H – went to four different places among Resort, Beach, Hotel and Cinema, such that each place was visited by two students each. Each student visited exactly one place. After their return, their teacher asked them about the place visited by each of them. Following were their answers:

(1) A said " I did not go with C or D and went to the Resort or the Cinema".
(2) B said " I did not go with E or G and went to the Hotel or the Cinema".
(3) C said " I did not go with D or F and went to the Beach or the Resort".
(4) D said " I did not go with B or H and went to the Beach or the Hotel".
(5) E said " I went with B or C or D or F or H and went to the Cinema or the Beach".
(6) F said " I did not go with A or G and went to the Resort or the Cinema".
(7) G said " I went with B or D or E or F or H and went to the Beach or the Hotel".
(8) H said " I did not go with C or A and went to the Resort or the Beach".

46. Who among the following went with A?

1. E 2. B 3. G 4. H

47. E went with ------ and visited the -------

1. C, Beach 2. F, Cinema 3. D, Beach 4. G, Beach

48. If only D and H lied about the places visited by them, then with whom did D visit the place of his choice?

1. H 2. F 3. G 4. Cannot be determined

Directions for Questions 49 to 53: Answer the questions on the basis of the information given below.

Recently, Jaidev and three fellow workers challenged one another to follow a strict diet for a month. Each of these employees has a different job; one of them being a sales representative. Each person is of different age (only one of their age is an odd number) but all are in their thirties. At the start of the month, the lightest person weighed 150 pounds. By the end of the month, all reported weight losses.

A. The oldest dieter, who is not the typist, is three years older than the dieter who initially weighed 180 pounds and who is not Devika.
B. The thirty-two year old is not the youngest dieter.
C. Devika cheated a little on her diet but still lost fourteen pounds, while the clerk, who is not Meena, lost only twelve pounds, still another dieter lost sixteen pounds.
D. At the end of the diet period, the accountant weighed one pound less than Abhay and was the most successful dieter, with a 10 percent weight loss.
E. The youngest dieter, who weighed 170 pounds before dieting, is seven years younger than the dieter who lost only five pounds. A dieter who has the maximum weight loss (in percentage terms) is known as the most successful dieter.

49. Who among the following is the youngest dieter?

a. Abhay b. Jaidev c. Meena

d. Devika e. Cannot be determined

50. Who is the most successful dieter of all?

a. Abhay b. Jaidev c. Meena

d. Devika e. Cannot be determined

51. What is Abhay working as?

a. Clerk b. Typist c. Salesrepresentative

d. Accountant e. cannot be determined

52. Who among the following is the oldest dieter of all?

a. Jaidev b. Abhay c.Meena

d. Devika e. Cannot be determined

53. Which of the following statements is true?

a. Abhay, a sales representative lost 10 pounds.

b. Jaidev, an accountant, registered the maximum weight loss.

c. Devika, working as a typist, lost 14 pounds at the end of the month.

d. Meena is thirty-four years old.

e. None of the above.

Directions for Questions 54 to 57: Answer the questions on the basis of the information given below.

In a sports event, six teams (A, B, C, D, E and F) are competing against each other Matches are scheduled

in two stages. Each team plays three matches in State – I and two matches in Stage – II. No team

plays against the same team more than once in the event. No ties are permitted in any of the matches. The

Observations after the completion of Stage – I and Stage – II are as given below.

Stage-I:

• One team won all the three matches.

• Two teams lost all the matches.

• D lost to A but won against C and F.

• E lost to B but won against C and F.

• B lost at least one match.

• F did not play against the top team of Stage-I.

Stage-II:

• The leader of Stage-I lost the next two matches

• Of the two teams at the bottom after Stage-I, one team won both matches, while the other lost both matches.

• One more team lost both matches in Stage-II.

54. The two teams that defeated the leader of Stage-I are:

(1) F & D (2) E & F (3) B & D (4) E & D
(5) F & D

55. The only team(s) that won both matches in Stage-II is (are):

(1) B (2) E & F (3) A, E & F (4) B, E & F
(5) B & F

56. The teams that won exactly two matches in the event are:

(1) A, D & F (2) D & E (3) E & F (4) D, E & F
(5) D & F

57. The team(s) with the most wins in the event is (are):

(1) A (2) A & C (3) F (4) E
(5) B & E

Directions for questions 58-61: Answer the questions on the basis of the information given below.

Ten teams that are to take part in the Championships Challenge were divided into two pools- Pool A and Pool B. Each team in a pool was to play every other team in that pool. Two points are awarded for a win and zero points for a loss with there being no draws or ties. The top three teams in each pool would advance to the next stage called the super six stage and they would carry forward all the points they scored in matches against the other two teams which advanced to the super six stage from its pool. In the super six stage all teams that advance from pool A are to be in group 1 and all teams that advanced from pool B are to be in group 2. Each team in group 1 plays against every team in group 2 with points awarded as in the pool stage. At the end of the super six stage the top two teams in each group according to their total points (super six points + carry forward points) advance to the semi finals with the top team in group 1 playing the second team from group 2 and vice versa. The winners of the semi finals advance to the finals. If two or more teams end up with the same number of points at the end of the pool or the super six stage, the tie is resolved using tiebreak rules.

58. The total number of matches in the tournament is-

1. 28 2. 30 3. 32 4. 33

59. The number of points scored by a team which advanced to the super six stage is at least

1. 2 2. 4 3. 6 4. 8

60. The total points (super six points + carry forward points) of a team that advanced to the semi finals is at least

1. 2 2. 4 3. 6 4. 8

61. The maximum number of wins by a team that failed to advance to the semi finals is-

1. 3 2. 4 3. 5 4. 6

Directions for questions 62-65 : Answer the questions on the basis of the information given below.

Sixteen teams participating in a hockey tournament are divided into two pools, pools A and pool B, each having eight teams. In each pool, each team plays one match with every other team. Two points are awarded for a win, one point for a draw and zero points for a loss. At the end of the pool stage, the top two teams, in terms of the number of points scored advance to the semi finals and the winners of the semi finals play the finals. If two or more teams end up with the same number of points at the end of the pool stage, the team with the best goal difference is placed highest, the next one second and so on.

62. What is the number of matches to be played in the tournament?

1. 51 2. 56 3. 58 4. 59

63. What is the least number of points with which a team can advance to the semi finals?

1. 4 2. 5 3. 6 4. 8

64. What is the maximum possible number of matches won by a team that was eliminated in the pool stage?

1. 3 2. 4 3. 5 4. 6

65. What is the minimum possible number of matches won by a team that reached the finals?

1. 1 2. 2 3. 3 4. 4

Directions for questions 66 to 69: Answer the questions on the basis of the information given below.

Geeta and Neeta are playing a game which involved picking up coins kept on a table. The players take turns alternately and each player in his or her turn has to pick at least one and at most five coins. Both players are equally intelligent and play to the best of their abilities so as to win the game.

66. During a game when it was Geeta's turn to play, there was 32 coins left on the table. Which of the following is the number of coins Geeta should pick up so as to win the game, no matter how Neeta plays?

1. 1 2. 2 3. 3 4. 5

67. During Neeta's turn if she removed 4 coins from the table which made sure that she won the game, then which of the following could have been the number of coins on the table before she removed the four coins?

1. 45 2. 52 3. 71 4. None of these

Additional information: Assume now that the player who picks up the last coin wins the game.

68. During a game when it was Neeta's turn to play, there were 24 coins left on the table. Which of the following is the number of coins she should pick up so as to ensure her win?

1. 1 2. 2 3. 4 4. Neeta cannot win

69. If during her turn Neeta had to remove two coins so as to ensure her win, then which of the following could have been the number of coins on the table before she removed the coins?

1. 25 2. 32 3. 50 4. More than one of the above

Directions for Questions 70-74: Answer the following questions based on the information given below:

128 players take part in a Grand Slam tournament . The tournament is scheduled to be seven round and in each round, in a match between two players , the winner advances to the next round and the loser is eliminated . There are no draws or byes in the tournament. The players who take part in tournament are seeded from 1 to 128, with seed 1 being the top seed, seed 2 next and so on. The matches are scheduled in such a way that in any round , assuming there are no upsets, the highest seeded player plays against the lowest seeded player at the point, the next highest seeded player always plays against the lowest seeded player and so on. An upset is said to happen when a lower seeded player beats a higher seeded player. The schedule of matches in the next round with the only difference that the player who caused the upset advance to the next round and takes the designated place of the player he upset.

71. In case of no upset in the tournament in which round would the player seeded 10 face a player seeded higher than him?

1.2nd round 2. 3rd round 3. 4th round 4. 5th round

72. How many players in the tournament won exactly one match?

1. 15 2. 24 3. 30 4. None of these

73. Assuming no upsets, which player beat seed No. 25?

1.Seed 8 2. Seed 6 3. Seed 1 4. Seed 14

74. If the player seeded 13 won the tournament, then what is the minimum number of upsets in the tournament?

1.2 2. 3 3. 4 4. 5

75. Which of the following players could have faced player seeded 1 in the fourth round?

1. Seed 64 2. Seed 32 3. Seed 17
4. Seed 8

Directions for Questions 76 to 78: Answer the following questions based on the information given below:

Top 64 players participated in a knock out tennis tournament this tournament has five knock out rounds before the final, i.e. first round, second round third round , quarter finals and semifinals. In the first round, the highest seeded player (seed 1) plays the lowest seeded player (seed 64) and this match is designated as match no. 1 of the first round ; the 2^{nd} seeded player plays the 63^{rd} seeded player and this match is designated as match no.32 of the first round is to be played between the 32^{nd} seeded and the 33^{rd} seeded players. In the second round the winner of match no. 1 of the first round and this match is designated as match no. 1 of the second round. Similarly the winner of match no.31 of the first round and this match is designated as match no. 2 of the second round. Thus, for instance, match no.16 of the second round is to be played between the winner of match no. 16 of the first round and the winner of match no. 17 of the first round as well. An upset is said to be taken place if a lower seeded player beats a higher seeded player.

76. What is the maximum possible number of upsets in the tournament?

1. 64 2. 63 3. 127 4. 32

77. If there is no upset in the tournament with whom does seed 3 play in the quarterfinals?

1. Seed 6 2. Seed 2 3. 4 4. Seed 5

78. If seed 43 reaches the third round , who among the following players could he have played in that round?

1. Seed 52 2. Seed 36 3. Seed 54
4. Seed38

Blood Relations

Directions for Questions 79 to 81: Answer the following questions based on the information given below:

79. How is my father's father-in-law's only daughter related to me?

1. Mother 2. Aunt 3. Mother-in-law 4. None of these

80. How is my mother related to my sister's father's father-in-law?

1. Daughter-in-law 2. Sister 3. Daughter 4. Sister-in-law

81. Pointing at a photograph, Mr Charan tells Mr. Daniel, " The person in the photograph is your mother's brother's only sibling and is my mother".

1. Brother 2. Cousin 3. Nephew 4. Brother-in-law

Directions for Questions 82 to 84: Answer the following questions based on the information given below:

A,B,C,D,E,F and G are the seven members in a family. Among them, there are two couples and each couple has exactly two children. B, who is married, has no siblings and he is not married to E, a female, who is also married. D is the father of G. F, the youngest in the family, has a paternal uncle. A is unmarried while F and C are of the same gender. A and G are of different gender.

82. How is F related to A?

1. Daughter 2. Niece 3. Nephew 4. Son

83. How is C related to E?

1. Mother 2. Daughter 3. Daughter-in-law 4. Mother-in-law

84. How is A related to E?

1. Brother-in-law 2. Husband 3. Brother 4. Son

Directions for Questions 85 to 88: Answer the following questions based on the information given below:

A, B, C, D, E, & F are two sets of triplets, not necessarily in the order given. Each triplet contains 3 siblings.

1. None of the six is married to a sibling or to someone of the same sex.
2. Four of the six are male and two are female.
3. Neither set of triplets contains 3 siblings of the same sex.
4. A and D are married to each other.
5. B is E's only brother.

85. Who cannot be sister and brother?

a. A and E b. C and F c. D and E d. D and F

e. E and F

86.F must be a female if

a. A and E are siblings. b. C and F are siblings c. D and E are siblings.

d. C is D's sister-in-law. E. C is D's brother-in-law.

87. Which of the following statements must be false?

a. C is D's sister-in-law b. E is D's sister-in-law c. B is D's brother-in-law

d. C is D's brother-in-law e. E is D's brother-in-law

88. If E and F are married to each other, which of the following must be true?

a. C is a male b. F is a male c. A is a female

d. B is a female e. D is female.

Directions for Questions 89 to 93: Answer the following questions based on the information given below:

Eight members of a family A through H are sitting around a circular table. The following information is known about them:

1. There are three married couples in the family.

2. One of A's sons is sitting opposite him while the other is adjacent to him.

3. H's sister-in-law is B who is sitting to the immediate right of H's father-in-law.

4. The number of females of the family is less than the number of males in the family.

5. Two of married couples have two children each.

6. C, who is the eldest male in the family, is sitting third to the left of his wife.

7. F, the youngest , is not G's son and is sitting adjacent to H.

8. H is the aunt of E who is sitting three places away from G.

89. Who is C's son?

1. A 2. E 3. D 4. None of the above

90. How is A's brother-in-law's nephew's grandmother related to B?

1. Mother 2. Sister 3. Niece 4. Aunt

91. What is the position of E's father with respect to C's daughter-in-law?

1. Immediate left 2. Opposite each other 3. Second to the right 4. Second to the left

92. Based on the information given the three of the following four are similar in a certain way and form a group. Find the one that does not belong to the group

1. E 2. G 3. F 4. B

93. How is F related to the person sitting third to the left of him?

1. Son 2. Father 3. Brother 4. Grandson

Home Assignment:

Practice Questions:

Directions for questions 1 to 3: Answer these questions based on the information given below:

Six different cars Civic, Figo, Pulse, Sunny, Verna and Xylo are parked in the parking lot in a row. They all are of different colours among Blue, Black, Grey, Red, White and Yellow, not necessarily in the same order. Further, it is known that:

(1) Verna is parked adjacent to the Red and the Black cars.

(2) The yellow colour Figo is not adjacent to the White car.

(3) Sunny is to the immediate left of the Black car which is not Xylo.

(4) The White and Grey cars are not at the ends.

(5) Pulse is not Grey in colour nor it is adjacent to Sunny.

1. What is the colour of Pulse?

1. Black 2. Red 3. Grey 4. Blue

2. Which car is at the right end of the row and what is its colour?

1. Xylo-Grey 2. Pulse-White 3. Civic-Grey 4. Civic-White

3. Which car is of Black colour?

1. Pulse 2. Sunny 3. Xylo 4. Civic

4. Six persons – A through F are sitting in a circular table such that A is sitting two places away to the left of E, who is not adjacent to C and F. D is to the right of E and A is sitting between B and F. Who is sitting opposite to D?

1. A 2. B 3. C 4. F

Directions for questions 5 to 7: Answer these questions based on the information given below:

Eight persons – Arun, Pankaj, Rohan, Veda, SUman, Shanu, Dimple and Pinky are sitting around a circular table for a group discussion. Suman is not sitting opposite to Pinky and Shanu is sitting three places wasy to the right of Pankaj. Dimple is sitting in between Pankaj and Suman. Rohan is sitting adjacent to Pankaj who is sitting opposite to Arun.

5. Who is sitting opposite to Dimple?

1. Pinky 2. Shanu 3. Rohan 4. Cannot be determined

6. Who is sitting opposite to Veda?

1. Suman 2. Pinky 3. Shanu 4. Cannot be determined

7. If Rohan is sitting to the left of Veda, then who is sitting opposite to Shanu?

1. Rohan 2. Dimple 3. Suman 4. Cannot be determined

Directions for questions 8 to 10: Answer these questions based on the information given below:

An Indo- China joint venture by the name of Chindia Corp has eight board members- L,M,N,P,Q,R,S and T- four each from India and China. The four members from each country hold different posts among COO, CFO, CMD and CEO, in no particular order. During a board meeting, the eight members sit at a square table such that there are two members along each side of the table. It is also known that:

1. No member has any of his fellow countrymen as neighbours.
2. No two members sitting along the same side of the table hold the same post in their respective countries.
3. L, who is a CFO, and P sit along the same side of the table.
4. The two neighbours of N are the Indian CFO and S.
5. R is a COO and exactly one person sits between him and the Chinese CMD.

6. Q, who is a CFO, is the third person to the right of L.
7. M, who is a COO, sits diagonally opposite S. A CMD sits to the immediate right of S.

8. Who is the Chinese CEO?

1. P 2. T 3. N 4. Cannot be determined

9. Which two members among the given pairs cannot be neighbours?

1. P and M 2. M and N 3. M and T 4. M and Q

10. If the two COOs are neighbours, which of the following is the correct combination of " name-post" of the third person to the left of T?

1. P - CEO 2. L – CFO 3. Q – CFO 4. R – COO

11. Our friends, Kireet, Lalita and Manasi, were chatting on the net. From the information given below, can you identify when each logged on and off?

Names : Kireet, Lalita and Manasi

Logging on times : 8:30, 9:00, 9:05

Logging off times : 9:30, 10:00, 10:10

The one who signed in at 8:30, signed out 40 minutes after Manasi did. The one who signed in at 9:05 signed out at 10:00. Lalita did not sign in at 8:30. Who is who and what were the logging on and off times of each?

Directions for questions 12 to 13: Answer these questions based on the information given below:

Four friends- Vikrant, Vikram, Jasneet and Saurabh- were born in four different months- January, March, July and December- of the same year, not necessarily in the same order. Each friend has a distinct surname among Joshi, Singh, Gupta and Agarwal, not necessarily in the same order. It is also known that: surname among Joshi, Singh, Gupta and Agarwal, not necessarily in the same order. It is also known that:

1. Vikrant is younger than Gupta.

2. Jasneet was not born in December.

3. Saurabh, who is not the youngest , was not born in March.

4. Joshi is not the youngest and was also not born in January.

5. Vikram was born before Vikrant but after Agarwal.

6. Agarwal was not born in January.

12. Who among the four friends is the youngest?

1. Vikrant Singh 2. Vikram Gupta 3. Vikrant Joshi 4. Cannot be determined

13. Who among the four friends was born in March?

1. Saurabh Gupta 2. Vikram Gupta 3. Jasneet Agarwal 4. Cannot be determined

Directions for questions 14 to 16 : Answer the questions on the basis of the information given below.

India, Pakistan, Malaysia, South Korea, Japan and China are to take part in the Asian Hockey Championship. In the first round, each team plays each of the other teams exactly once. At this stage two points are awarded for a win, one point for a draw and zero points for a loss. After all the matches were played the top two teams, in terms of the points scored advance to the finals. In case two or more teams end up with the same number of points, the team with a better goal difference is placed higher.

14. The total number of matches in the tournament is-

1. 21 2. 22 3. 15 4. 16

15. What is the minimum number of points with which a team can advance to the finals?

1. 6 2. 5 3. 4 4. 3

16. What is the maximum number of points that can be scored by a team, which failed to advance to the finals?

1. 8 2. 9 3. 6 4. 7

Directions for questions 17 to 21: Answer the questions on the basis of the information given below.

Two persons Sowmya and Swapna were playing a game which involved picking up of coins from a table. Each player in her turn was to pick a minimum of one and a maximum of five coins. The game continued till all the coins were removed from the table. Assume that both players play intelligently so as to win the game.

For questions **9 - 11** assume that the player who picks up the last coin loses the game.

17. If there are 12 coins on the table and it is swapna's turn to play, then how many coins should she pick up so as to win the game, no matter what sowmya plays?

1.1 2. 2 3. 5 4. 4

18. How many coins should soumya pick up to win the game, no matter what swapna does, if there are 25 coins on the table before sowmya's turn to play?

1. 2
2. 3
3. 4
4. She cannot win no matter what she does.

19. If the number of coins to be picked up in sowmya's turn, so as to win the game, no matter what the opponent plays is 3, then which of the following could be the number of coins on the table?

1. 32 2. 35 3. 26 4. 28

For questions 9-10 assume that the player who picks up the last coin wins the game.

20. How many coins should sowmya pick up to ensure her win, if there 20 coins on the table before her turn to play?

1. 1 2. 2 3. 3 4.4

21. If the number of coins to be picked up in Swapna's turn, so as to win the game no matter what her opponent plays is 4, then which of the following could be the number of coins on the table?

1. 34 2. 32 3. 27 4. 25

Directions for Questions 22 to 25: Answer the following questions based on the information given below:

In the table below is the listing of players, seeded from highest (#1) to lowest (#32), who are due to play in an Tennis Tournament. This tournament has four knockout rounds before the final, i.e., first round, second round, quarterfinals, and semi-finals. In the first round, the highest seeded player plays the lowest seeded player (seed # 32) which is designated match No. 1 of first round; the 2^{nd} seeded player plays the 31^{st} seeded player which is designated match No. 2 of the first round, and so on. Thus, for instance, match No. 16 of first round is to be played between 16^{th} seeded player and the 17^{th} seeded player. In the second round, the winner of match No. 1 of first round plays the winner of match No. 16 of first round and is designated match No. 1 of second round. Similarly, the winner of match No. 2 of first round plays the winner of match No. 15 of first round, and is designated match No. 2 of second round. Thus, for instance, match No. 8 of the second round is to be played between the winner of match No. 8 of first round and the winner of match No. 9 of first round. The same pattern is followed for later rounds as well. There is exactly one upset(a lower ranked player beating a higher ranked player) in each of the rounds, including the finals. No match ended as a draw.

Seed #	Player		Seed #	player		Seed #	Player
1	Somdev		12	ramiz		23	Roopesh
2	Vijay		13	Sachin		24	Vidya
3	Ramesh		14	Amit		25	Nisha
4	Prakash		15	Dibyendu		26	Muruthy
5	Anand		16	Stalin		27	Swati
6	Mahesh		17	Peltu		28	Meenakshi
7	Paes		18	Peter		29	Kapil
8	Sania		19	Samy		30	Arvind
9	Anju		20	Ramesh		31	Niranjan
10	George		21	Rajesh		32	Sunil
11	Spoofy		22	Rakesh			

22. If Kapil reaches the final, then who will play with him in the finals, if the number of upsets in the tournament is minimum?

1. Vijay 2. Ramesh 3. Somdev 4. Anand

23. If Peter won the second round match, then who won the finals?

1. Peter 2. Dibyendu 3. Kapil 4. Cannot be determined

24. If Anand played the quarterfinals, then who amongst the following must not have played against him in the quarterfinals?

1. Ramesh 2. Prakash 3. Sachin 4. Kapil

25. If Ramiz played the semifinals, then who amongst the following could have played him in the semifinals?

1. Ramesh 2. Sania 3. Meenakshi 4. Prakash

Directions for Questions 26 to 28: Answer the following questions based on the information given below:

There is a cube in which one pair of opposite faces is painted red, the second pair of opposite faces is painted blue and the third pair of opposite faces is painted green. This cube is now cut into 216 smaller but identical cubes.

26. How many small cubes are there with no red paint at all?

1. 121 2. 144 3. 169 4. 100

27. How many small cubes are there with at least to different colours on their faces?

1. 49 2. 64 3. 56 4. 81

28. How many small cubes are there with only red and green on their faces?

1. 9 2. 16 3. 27 4. 18

Directions for Questions 29 to 31: Answer the following questions based on the information given below:

There is a cube in which one pair of adjacent faces is painted red, the second pair of adjacent faces is painted blue and a third pair of adjacent faces is painted green. This cube is now cut into 216 smaller but identical cubes.

29. How many small cubes are there with one face painted red?

1. 64 2. 81 3. 60 4. 120

30. How many small cubes are with both red and green on their faces?

1. 8 2. 12 3. 16 4. 32

31. How many small cubes are there showing only green or only blue on their faces?

1. 64 2. 72 3. 81 4. 96

Directions for Questions 32 to 34: Answer the following questions based on the information given below:

Each face of a die is marked with a different number from 1 to 6. The numbers on the faces of the die are marked in such a way that the sum of the numbers on any pair of opposite faces is seven. Two such dice are thrown. Assume that one can always see exactly three faces of each die.

32. What is the total number of distinguishably different ways in which the sum of the numbers on the visible faces of both the cubes together is 20?

1. 2 2. 6 3. 3 4. 5

33. What is the total number of distinguishably different ways in which the sum of numbers on visible faces is exactly 10 on at least one die?

1. 12 2. 17 3. 15 4. 19

34. What is the total number of ways in which a specified number is visible on both the dice?

1. 32 2. 16 3. 14 4. 18

Home Assignment – Additional Questions :

1. There are three closed and opaque cardboard boxes. One is labelled APPLES, another is labelled ORANGES, and the labelled APPLES AND ORANGES. You know that the labels are currently misarranged, such that no box is correctly labelled. You would like to rearrange these labels correctly. To accomplish this, you may draw only one fruit from one of the boxes. Which box do you choose, and how do you then proceed to rearrange the labels?

1. apples 2. oranges 3. apples & oranges 4. anyone of the three

2. Suchitra gave Sujata as many rupees as Sujata started with. Sujata then gave Suchitra back as much as Suchitra had left. Suchitra then gave Sujata back as many rupees as Sujata had left, which left Suchitra broke and gave Sujata a total of Rs 80. How much did Suchitra has at the beginning of their exchange?

1. Rs 30 2. Rs 50 3. Rs 80 4. Rs 90

3. What is the fastest time that a group of four people can row to other side of a river with the following rules in place?

- All four people must cross the river using the boat.
- Only two people can travel in the boat at any one time.
- The person in the boat who rows at the slowest speed must do the rowing (they travel at the speed of the slowest person).

The speed of the rowers is as follows :

- Rower no. 1 -- rows in 1 minute
- Rower no. 2 -- rows in 2 minutes
- Rower no. 5 -- rows in 5 minutes
- Rower no. 10 – rows in 10 minutes

1. 17 mins 2. 20 mins 3. 22 mins 4. 24 mins

4. A G has a gold chain with 7 links.

He want to pay his servant one link for every one day but did not want to pay him advance. So, what is the minimum no. of cut needed for achieving this?

1. 0 2. 1 3. 2 4. 3 5. 6

5. The sum of the ages of three brothers is 73. Tom is the oldest of the brothers, but he less than 40 years old. The product of Tom's age and Michael's age is 750. The difference between Tom's age and Don's age is 7 more than the difference between Tom's age and Michael's age. Don is

1. 30 years old. 2. 21 years old. 3. 18 years old. 4. 8 years old

6 . Ace, Bea, Cec, Dee, Eve, Fth and Geo are 1, 2, 3, 4, 5, 6 and 7 years old, in some order. Dee is three times as old as Bea. Cec is four years older than Eve. Fth is older than Ace and Ace is older than Geo, but the combined age of Ace and Geo is greater than the age of Fth. The age of Ace is

1. 2 2. 3 3. 4 4. 5

Directions for Questions 7 to 10: Answer the following questions based on the information given below:

When the four gamblers P, Q, R and S-sat down for their usual game of poker, each of them placed their stake money (a whole number of rupees). After a number of hands, P found that he had exactly doubled the money with which he had started. It was his turn to provide the evening's refreshments, and he bought the first round of snacks. After a few-more hands, P exactly doubled the money he had left after buying the first round snacks and he then bought the second round of snacks. Thereafter he repeated the process, i.e. he exactly doubled his remaining money and bought the third round of snacks.

During the fourth session, P took every rupee his three opponents still had on the table and found that he had exactly doubled the money he had left after buying the third round of snacks. He then bought a fourth round of snacks-which took the entire money he had.

Each of the four rounds of snacks cost precisely the same amount (a whole number).

R began the game with a sum (between 50 and 100) which was exactly half the total which Q and S had between them at the start.

7. What is the cost of one round of snacks?

a. Rs. 96 b. Rs. 72 c. Rs. 32 d. Rs. 40 e. None of these

8. What was the money that P had with him at the beginning?

a. Rs. 25 b. Rs. 32 c. Rs. 40 d. Rs. 60 e. Rs. 90

9. What was the money that R had with him at the beginning?

a. Rs. 48 b. Rs. 16 c. Rs. 98 d. Rs. 18 e. Cannot be determined

10. What was the total amount spent on snacks during the evening?

a. Rs. 384 b. Rs. 192 c. Rs. 128 d. Rs. 64 e. None of these

Directions for Questions 11to 12: Answer the following questions based on the information given below:

Ramu's job is to mark all the electric posts in 11 wards of a leading south Delhi district for ascertaining faults and report it back to his boss. The wards are marked from 1 to 11. On each working day, he marks exactly 3 distinct wards and each ward is marked twice in a week(Sunday is a holiday). For some reason, he missed two wards last week altogether.

The sums of the ward numbers marked last week are as shown below:

on Monday: 23

on Tuesday: 18

on Wednesday: 25

on Thursday: 9

on Friday: 8

on Saturday: 29

11. Which of the following combination of ward numbers marked is not possible for Thursday?

(1) 1, 2, 6 (2) 2, 3, 4 (3) 1, 3, 5 (4) Both (1) & (3)

(5) All are possible

12. If one of the wards missed by Ramu is ward 6, then the difference between the highest and the lowest ward numbers marked on Monday is

(1) 6 (2) 7 (3) 8 (4) 10
(5) 12

Directions for questions 13 to 17: Answer the questions based on the following information.

A	B	A	C
+	B	D	A
		A	E
G	D	F	E

In the above notation, the letters represent distinct digits from 2 to 9. Out of C , A and E , two numbers multiply to yield the third number.

13. GDFE when divided by E gives remainder of :

(1) 0 (2) 1 (3) 2 (4) 3 (5) None of these

14. What is D – E?

(1) –1 (2) 1 (3) 2 (4) –2 (5) Cannot be determined

15. Which of the following letters represents a perfect cube ?

(1) A (2) B (3) C (4) D (5) E

16. Which letter represents a number which is twice of F ?

(1) A (2) D (3) B (4) E (5) None of these

17. What is (B,C) ?

(1) (7, 2) (2) (6, 3) (3) (8, 2) (4) (9, 3) (5) None of these

Directions for Questions 18 to 20: Answer the questions on the basis of the information given below:

The following table gives the National Football League (NFL) 2007 standings as on April 30, 2007. In the format of NFL, each of the 12 participating teams plays with every other team twice. The League matches was to be conclude by May 31, 2007. The rank of the team in the league is decided by the points scored by the team-the higher the points, the better the rank. If two teams are tied at the same point, then the team with the higher goal difference (goals scored-goals conceded) has the better rank. If they are still tied, the team with the higher number of goals scored has a better rank. Three points are awarded to the winning team and one point is awarded to both the teams in a drawn match. No point is awarded to the loosing team

League Standings

Teams	P	W	D	L	F	A	Pts
Sporting Club	21	14	3	4	45	20	45
Dempo	20	13	5	2	25	15	44
East Bengal	20	12	4	4	31	12	40
Mahindra	21	7	11	3	26	20	32
Fransa	21	8	6	7	24	24	30
JCT Mills	21	7	7	7	19	17	28
Salgaocar	21	6	7	8	24	24	25
Churchill Bros	21	5	7	9	22	32	22
Mohun Bagan	21	5	7	9	15	18	22
Vasco	21	4	5	12	22	36	17
Tollygunge	21	3	8	10	20	43	17
SBT	21	3	6	12	22	34	15

Note: P = Played, W = Won, D = Drawn, L = Lost, F = Goals scored, A = Goals conceded, Pts = Points

18. If East Bengal won the NFL Championship in 2007, then which of the following events have necessarily happened?

I. East Bengal won the remaining two matches.

II. Sporting Club lost the remaining match.

III. Dempo drawn at least one of its remaining matches.

IV. Dempo lost both the remaining matches.

a. I only b. I and II c. I, II, III d. I, II, IV

e. None of the above

19. For which group of ranks in the NFL 2007 can you conclude the names of the teams in those ranks?

I. Top 3 ranks

II. Bottom 3 ranks

III. Ranks 4 to 6

IV. Ranks 7 to 9

a. I only b. II only c. I and II d. I, II and III e. I, II, III and IV

20. In the remaining match between Sporting Club and Dempo, Dempo won the match and Dempo managed to draw with East Bengal in the other remaining match. Which team was the runner-up (team at rank 2) of NFL 2007?

a. Sporting Club b. Dempo c. East Bengal d. Either (a) or (b)
e. Either (b) or (c)

Direction for Questions 21 to 24 : Answer the questions on the basis of the information given below.

Two intelligent and rational kids Monty and Flinty were playing a game of number with a square. The square is a 5-row × 5-column grid of 25 cells as shown below.

			X	
	80			
				200
		40		
20				

They started writing numbers into the cells randomly one by one taking chances. Monty stated the game and it is his chance now to write some number. The interesting thing about the game is that its execution varies according to the numbers written in the first four chances. Flinty, after his 2nd chance, says that the numbers in the cells must be filled in such a way that all the numbers in any row or in any column are in arithmetic progression.

21. What number must Monty write into the position X in his chance now?

a. 600 b. 520 c. 345 d. 216

22. What is the minimum sum of all the numbers Monty could have written if the strategy of any player is to maximize the sum of all the numbers written by him?

a. 2340 b. 1544 c. 824 d. None of these

23. If both the players play to minimize the sum of the numbers written by them, what number is Flinty going to write in his last chance?

a. 345 b. 226 c. -64 d -46

24. What is the sum of all the numbers written in the 25 cells?

a. 850 b. 1688 c. 2550 d. None of these

25. Each of the digits from 0 to 9 are placed in one of the squares in a 2 × 5 table. The digit 0 goes into the square in the first row and the first column. The sum of the two numbers in each column except the first is constant. How many different digits could have gone into the square in the second row and the first column?

	C 1	C 2	C 3	C 4	C 5
R 1	0				
R 2					

a. 1 b. 3 c. 5 d. 9

Direction for Questions 26 to 28 : Answer the questions on the basis of the information given below.

At a marketing campaign, a pair of shoes is gifted to each of the six people – A, B, C, D, E and F – by a shoe manufacturing company. The shoe sizes of these six people are 6, 7, 8, 9, 10 and 11 respectively. A person can be gifted a pair whose size is in the range +1/ −1 of his shoe size. It was found that three people got pairs of one size, two others got pairs of a different size and the remaining person got a pair of a third size. The average of the shoe sizes of the six people is 0.33 more than the average of the size of the six pairs gifted to them.

26. Which of the following persons was definitely not gifted the pair whose size was different from the rest of the pairs of shoes that were gifted?

(1) A (2) B (3) C (4) D

27. For which of the following persons can the size of the pair of shoes gifted to him be determined?

(1) A (2) B (3) E (4) F

28. Which of the following additional statements are required to correctly identify the size of the pairs of shoes gifted to each of the six people?

I. A is gifted a pair of size 6.

II. B is gifted a pair of size 8.

III. C is gifted a pair of size 7.

(1) II only (2) I and II together (3) II and III together
(4) Either II only or I and III together

Directions for Questions 29 to 32: Answer the questions on the basis of the information given below.

In a target shooting competition, a person is allowed to shoot at four targets successively, then followed by the next competitor. When all have finished one such round, the process is repeated. If a target is hit, the shooter is awarded two points.

If he misses the target, the others are awarded one point each. The first person who gets 60 points wins the competition. In a contest between A, B and C, the final score card is A = 60, B = 53, C = 43. Out of a total of 78 shots fired, 43 hit the target.

29. Who was the first person to shoot?

a. A b. B c. C d. Either A or B e. Either B or C.

30. Who was the second person to shoot?

a. A b. B c. C d. Either A or B e. Either B or C

31. How many targets did A hit?

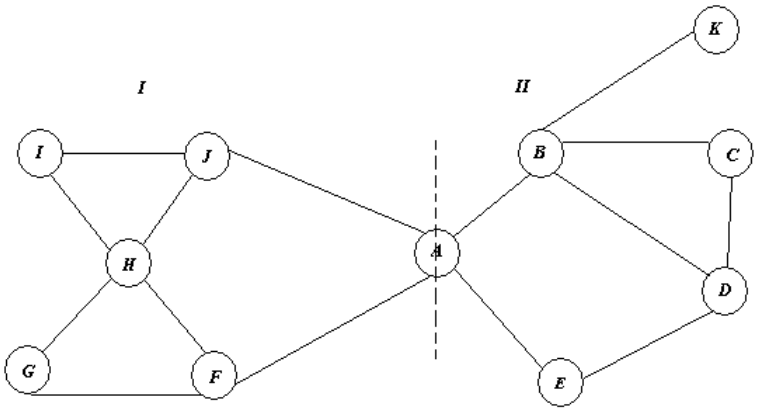
a. 42 b. 34 c. 17 d. 14 e. Cannot be determined

32. How many targets did B miss?

a. 6 b. 10 c. 12 d. 16 e. Cannot be determined

Directions for Questions 33 to 35: Answer the questions on the basis of the information given below.

A zoologist was showing a DNA cell pattern, as shown in the figure below, to his mathematician friend.



After looking at the pattern, the mathematician inserted the numbers from 1 to 11 in the eleven circles in some order. He defined the cardinality corresponding to a number as the sum of the numbers in all the circles connected directly to it. The cardinality corresponding to the numbers from 1 to 11 after the numbers were inserted by the mathematician is given below.

Numbers	**Corresponding Cardinality**
1	28
2	22
3	9
4	27
5	13
6	15
7	9
8	18
9	4
10	20
11	3

For example, if the number inserted in the circle F was 8, then the sum of the numbers inserted in the circles G, H and A should have been 18 because cardinality of 8 is 18.

33. Which number did the mathematician insert in the circle A?

a. 10 b. 8 c. 5 d. Cannot be determined

34. Taking circle A as the partition, the cell was divided into two zones I and II, as shown above. Circle A doesn't fall in either of the two zones. Then, what is the absolute difference between the sum of cardinalities of all the circles in zone I and zone II?

a. 7 b. 12 c. 17 d. 28

35. The zoologist requested the mathematician to swap the two numbers having equal corresponding cardinality in the cell. As a result, cardinality of some of the numbers got modified. Which number, now, has the maximum corresponding cardinality?

a. 1 b. 4 c. 2 d. 5

36. On each day of the week except Sunday, 8 students are on patrol duty. In each day, there are exactly 3 students who are on duty only on that day. The maximum number of students who are on duty during the week is

a. 28 b. 30 c. 33 d. 48

37. Initially, there is a 0 in each square of a 3 x 3 board. In each move, we add 1 to each number in any of the four 2 x 2 sub-boards. After a number of moves, someone erases the numbers at the four corner squares and the central square

of the 3 x 3 board. The remaining four numbers are 9, 10, 12 and 13. The value of the number at the central square is

a. 22 b. 33 c. 44 d. dependent on the moves

38. A room has six doors – A, B, C, D, E and F – out of which three are entry doors and three are exit doors. A person enters the room through A and passes through each door exactly once. A if followed by one of C or E, C is followed by one of F or B, F is followed by one of E or D, and E is followed by one of F or C. F is an entry door and B is an exit door. Which is the third entry door apart from A and F?

(1) B (2) C (3) E (4) C or E

Answer Keys (Home Assignment) Additional questions

	Answers			Answers
1.	3		20.	1
2.	2		21.	3
3.	1		22.	4
4.	2		23	1
5.	3		24.	3
6.	4		25.	2
7.	1		26.	2
8.	5		27.	4
9.	3		28.	4
10.	1		29.	3
11.	2		30.	1
12.	3		31.	3
13.	3		32.	2
14.	3		33.	1
15.	1		34.	2
16.	2		35.	2
17.	1		36.	3
18.	1		37.	3
19.	3		38.	2