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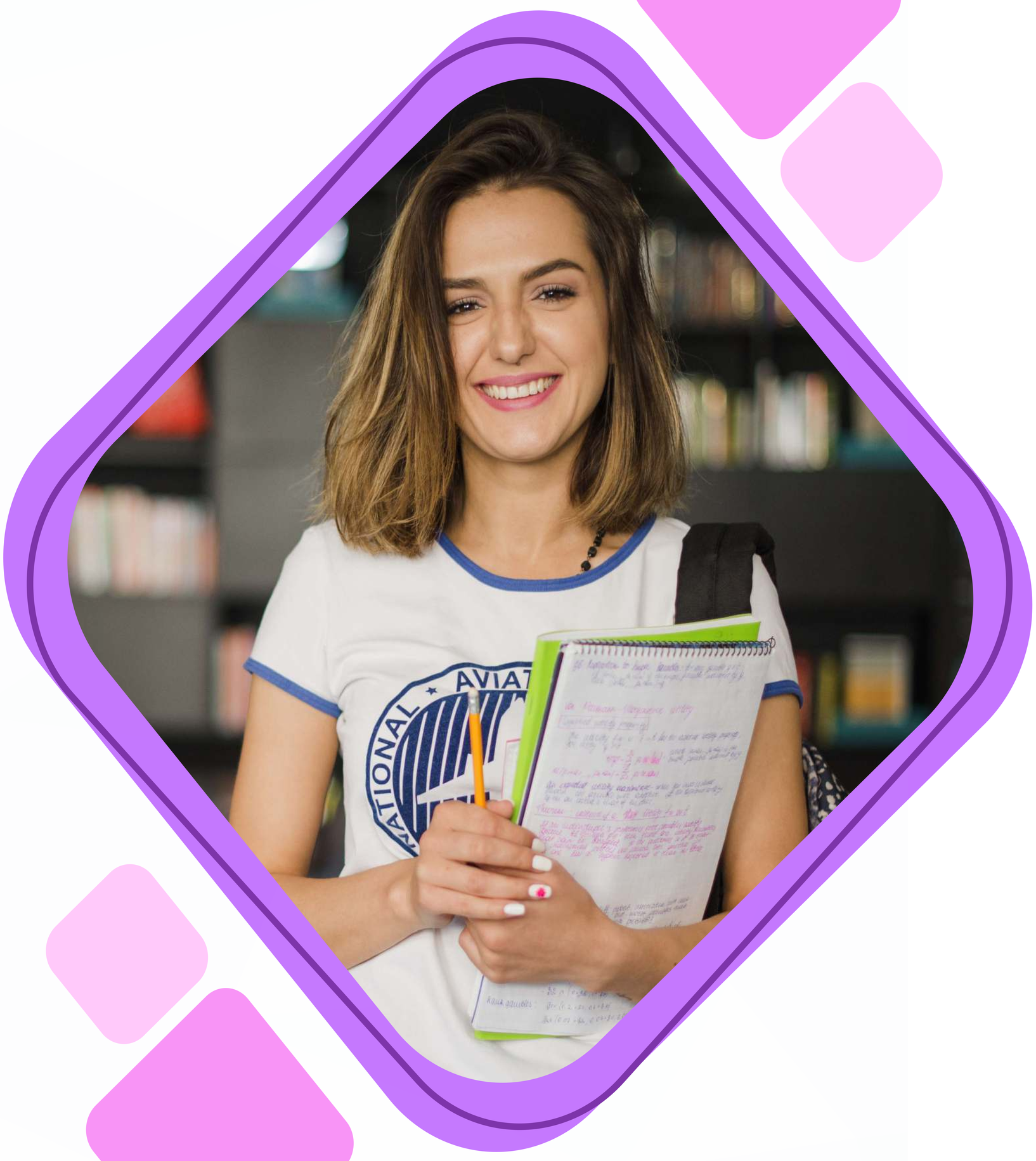
Previous year DI-LR for CAT Preparation



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Dear CAT Aspirants,

It's a tough journey to reach where we want to be in the career. It takes lots of eorts, struggles, long studying hours to crack CAT – One of the toughest management entrance exams in the country. Being one amongst the premier B School, Jaipuria Institute of Management accepts CAT score as one of its component in the selection process.

The process being very stringent, a limited number of aspirants are able to make through the selection process. In our endeavor to encourage and nurture management aspirants, we share lots of CAT related material in form of articles, ebooks, videos and even organize free career-oriented workshops. So, this time here we are with Reading Compression with their solutions.

Happy Reading!

LRDI

Instructions

Sixteen patients in a hospital must undergo a blood test for a disease. It is known that exactly one of them has the disease. The hospital has only eight testing kits and has decided to pool blood samples of patients into eight vials for the tests. The patients are numbered 1 through 16, and the vials are labelled A, B, C, D, E, F, G, and H. The following table shows the vials into which each patient's blood sample is distributed.

Patient	Vials	Patient	Vials
1	B,D,F,H	9	A,D,F,H
2	B,D,F,G	10	A,D,F,G
3	B,D,E,H	11	A,D,E,H
4	B,D,E,G	12	A,D,E,G
5	B,C,F,H	13	A,C,F,H
6	B,C,F,G	14	A,C,F,G
7	B,C,E,H	15	A,C,E,H
8	B,C,E,G	16	A,C,E,G

If a patient has the disease, then each vial containing his/her blood sample will test positive. If a vial tests positive, one of the patients whose blood samples were mixed in the vial has the disease. If a vial tests negative, then none of the patients whose blood samples were mixed in the vial has the disease.

Question 1

Suppose vial C tests positive and vials A, E and H test negative. Which patient has the disease?

A Patient 14

B Patient 8

C Patient 6

D Patient 2

Answer: C

Question 2

Suppose vial A tests positive and vials D and G test negative. Which of the following vials should we test next to identify the patient with the disease?

A Vial B

B Vial E

C Vial C

D Vial H

Answer: B

Question 3

Which of the following combinations of test results is NOT possible?

A Vials A and E positive, vials C and D negative

B Vial B positive, vials C, F and H negative

C Vials A and G positive, vials D and E negative

D Vials B and D positive, vials F and H negative

Answer: A

Question 4

Suppose one of the lab assistants accidentally mixed two patients' blood samples before they were distributed to the vials. Which of the following correctly represents the set of all possible numbers of positive test results out of the eight vials?

A {5,6,7,8}

B {4,5,6,7}

C {4,5,6,7,8}

D {4,5}

Answer: C

Instructions

XYZ organization got into the business of delivering groceries to home at the beginning of the last month. They have a two-day delivery promise. However, their deliveries are unreliable. An order booked on a particular day may be delivered the next day or the day after. If the order is not delivered at the end of two days, then the order is declared as lost at the end of the second day. XYZ then does not deliver the order, but informs the customer, marks the order as lost, returns the payment and pays a penalty for non-delivery. The following table provides details about the operations of XYZ for a week of the last month. The first column gives the date, the second gives the cumulative number of orders that were booked up to and including that day. The third column represents the number of orders delivered on that day. The last column gives the cumulative number of orders that were lost up to and including that day. It is known that the numbers of orders that were booked on the 11th, 12th, and 13th of the last month that took two days to deliver were 4, 6, and 8 respectively

Day	Cumilative orders booked	Orders delivered on day	Cumilative orders lost
13th	219	11	91
14th	249	27	92
15th	277	23	94
16th	302	11	106
17th	327	21	118
18th	332	13	120
19th	337	14	129

Question 1

Among the following days, the largest fraction of orders booked on which day was lost?

A 15th

B 16th

C 13th

D 14th

Answer: A

Question 2

On which of the following days was the number of orders booked the highest?

LRDI 2020

A 12th

B 15th

C 13th

D 14th

Answer: C

Question 3

The delivery ratio for a given day is defined as the ratio of the number of orders booked on that day which are delivered on the next day to the number of orders booked on that day which are delivered on the second day after booking. On which of the following days, was the delivery ratio the highest?

A 15th

B 16th

C 13th

D 14th

Answer: D

Question 4

The average time taken to deliver orders booked on a particular day is computed as follows. Let the number of orders delivered the next day be x and the number of orders delivered the day after be y. Then the average time to deliver order is $\frac{(x+2y)}{(x+y)}$. On which of the following days was the average time taken to deliver orders booked the least?

A 15th

B 13th

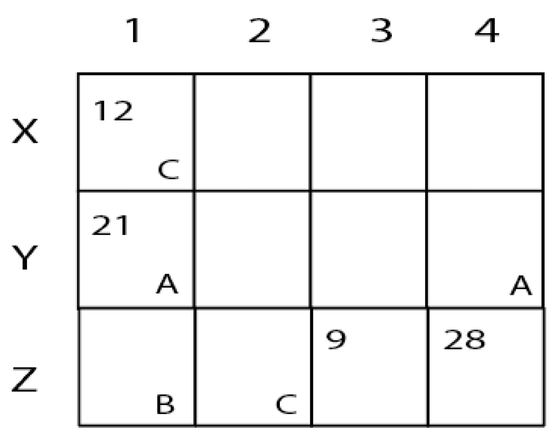
C 14th

D 16th

Answer: C

Instructions

A farmer had a rectangular land containing 205 trees. He distributed that land among his four daughters - Abha, Bina, Chitra and Dipti by dividing the land into twelve plots along three rows (X,Y,Z) and four Columns (1,2,3,4) as shown in the figure below:



The plots in rows X, Y, Z contained mango, teak and pine trees respectively. Each plot had trees in non-zero multiples of 3 or 4 and none of the plots had the same number of trees. Each daughter got an even number of plots. In the figure, the number mentioned in top left

corner of a plot is the number of trees in that plot, while the letter in the bottom right corner is the first letter of the name of the daughter who got that plot (For example, Abha got the plot in row Y and column 1 containing 21 trees). Some information in the figure got erased, but the following is known:

1. Abha got 20 trees more than Chitra but 6 trees less than Dipti.
2. The largest number of trees in a plot was 32, but it was not with Abha.
3. The number of teak trees in Column 3 was double of that in Column 2 but was half of that in Column 4.
4. Both Abha and Bina got a higher number of plots than Dipti.
5. Only Bina, Chitra and Dipti got corner plots.
6. Dipti got two adjoining plots in the same row.
7. Bina was the only one who got a plot in each row and each column.
8. Chitra and Dipti did not get plots which were adjacent to each other (either in row / column / diagonal).
9. The number of mango trees was double the number of teak trees.

Question 1

How many mango trees were there in total?

A 49

B 84

C 98

D 126

Answer: C

Question 2

Which of the following is the correct sequence of trees received by Abha, Bina, Chitra and Dipti in that order?

A 50, 69, 30, 56

B 54, 57, 34, 60

C 44, 87, 24, 50

D 60, 39, 40, 66

Answer: A

Question 3

How many pine trees did Chitra receive?

A 18

B 30

C 21

D 15

Answer: A

Question 4

Who got the plot with the smallest number of trees and how many trees did that plot have?

A Dipti, 6 trees

B Bina, 3 trees

C Bina, 4 trees

D Abha, 4 trees

Answer: B

Question 5

Which of the following statements is NOT true?

A Chitra got 12 mango trees

B Bina got 32 pine trees.

C Abha got 41 teak trees.

D Dipti got 56 mango trees

Answer: B

Question 6

Which column had the highest number of trees?

A 4

B 3

C Cannot be determined

D 2

Answer: A

Instructions

The Hi-Lo game is a four-player game played in six rounds. In every round, each player chooses to bid Hi or Lo. The bids are made simultaneously. If all four bid Hi, then all four lose 1 point each. If three players bid Hi and one bids Lo, then the players bidding Hi gain 1 point each and the player bidding Lo loses 3 points. If two players bid Hi and two bid Lo, then the players bidding Hi gain 2 points each and the players bidding Lo lose 2 points each. If one player bids Hi and three bid Lo, then the player bidding Hi gains 3 points and the players bidding Lo lose 1 point each. If all four bid Lo, then all four gain 1 point each. Four players Arun, Bankim, Charu, and Dipak played the Hi-Lo game. The following facts are known about their game:

1. At the end of three rounds, Arun had scored 6 points, Dipak had scored 2 points, Bankim and Charu had scored -2 points each.
2. At the end of six rounds, Arun had scored 7 points, Bankim and Dipak had scored -1 point each, and Charu had scored -5 points.
3. Dipak’s score in the third round was less than his score in the first round but was more than his score in the second round.
4. In exactly two out of the six rounds, Arun was the only player who bid Hi.

Question 7

What were the bids by Arun, Bankim, Charu and Dipak, respectively in the first round?

A Hi, Lo, Lo, Hi

B Hi, Lo, Lo, Lo

C Hi, Hi, Lo, Lo

D Lo, Lo, Lo, Hi

Answer: A

Question 8

In how many rounds did Arun bid Hi?

Answer:4

Question 9

In how many rounds did Bankim bid Lo?

Answer:4

Question 10

In how many rounds did all four players make identical bids?

Answer:2

Question 11

In how many rounds did Dipak gain exactly 1 point?

Answer:1

Question 12

In which of the following rounds, was Arun DEFINITELY the only player to bid Hi?

A Second

B Third

C Fourth

D First

Answer: A

Instructions

In a certain board examination, students were to appear for examination in five subjects:
English, Hindi, Mathematics, Science and Social Science. Due to a certain emergency situation, a few of the examinations could not be conducted for some students. Hence, some students missed one examination and some others missed two examinations. Nobody missed more than two examinations.

The board adopted the following policy for awarding marks to students. If a student appeared in all five examinations, then the marks awarded in each of the examinations were on the basis of the scores obtained by them in those examinations.

If a student missed only one examination, then the marks awarded in that examination was the average of the best three among the four scores in the examinations they appeared for. If a student missed two examinations, then the marks awarded in each of these examinations was the average of the best two among the three scores in the examinations they appeared for. The marks obtained by six students in the examination are given in the table below. Each of them missed either one or two examinations.

	English	Hindi	Mathematics	Science	Social Science
Alva	80	75	70	75	60
Bithi	90	80	55	85	85
Carl	75	80	90	100	90
Deep	70	90	100	90	80
Esha	80	85	95	60	55
Foni	83	72	78	88	83

The following facts are also known.

I. Four of these students appeared in each of the English, Hindi, Science, and Social Science examinations.
II. The student who missed the Mathematics examination did not miss any other examination.
III. One of the students who missed the Hindi examination did not miss any other examination. The other student who missed the Hindi examination also missed the Science examination.

Question 1

Who among the following did not appear for the Mathematics examination?

A Alva

B Carl

C Foni

D Esha

Answer: B

Question 2

Which students did not appear for the English examination?

A Carl and Deep

B Cannot be determined

C Alva and Bithi

D Esha and Foni

Answer: D

Question 3

What BEST can be concluded about the students who did not appear for the Hindi examination?

A Deep and Esha

B Alva and Deep

C Alva and Esha

D Two among Alva, Deep and Esha

Answer: B

Question 4

What BEST can be concluded about the students who missed the Science examination?

A Bithi and one out of Alva and Deep

B Alva and Bithi

C Deep and Bithi

D Alva and Deep

Answer: A

Question 5

How many out of these six students missed exactly one examination?

Answer:3

Question 32

For how many students can we be definite about which examinations they missed?

Answer:4

Instructions

Ten musicians (A, B, C, D, E, F, G, H, I and J are experts in at least one of the following three percussion instruments: tabla, mridangam, and ghatam. Among them, three are experts in tabla but not in mridangam or ghatam, another three are experts in mridangam but not in

tabla or ghatam, and one is an expert in ghatam but not in tabla or mridangam. Further, two are experts in tabla and mridangam but not in ghatam, and one is an expert in tabla and ghatam but not in mridangam.

The following facts are known about these ten musicians.
1. Both A and B are experts in mridangam, but only one of them is also an expert in tabla.
2. D is an expert in both tabla and ghatam.
3. Both F and G are experts in tabla, but only one of them is also an expert in mridangam.
4. Neither I nor J is an expert in tabla.
5. Neither H nor I is an expert in mridangam, but only one of them is an expert in ghatam.

Question 6

Who among the following is DEFINITELY an expert in tabla but not in either mridangam or ghatam?

A F

B C

C A

D H

Answer: D

Question 7

Who among the following is DEFINITELY an expert in mridangam but not in either tabla or ghatam?

A B

B J

C G

D E

Answer: B

Question 8

Which of the following pairs CANNOT have any musician who is an expert in both tabla and mridangam but not in ghatam?

A F and G

B C and E

C A and B

D C and F

Answer: B

Question 9

If C is an expert in mridangam and F is not, then which are the three musicians who are experts in tabla but not in either mridangam or ghatam?

A E, F and H

B C, G and H

C E, G and H

D C, E and G

Answer: A

Instructions

The local office of the APP-CAB company evaluates the performance of five cab drivers, Arun, Barun, Chandan, Damodaran, and Eman for their monthly payment based on ratings in five different parameters (P1 to P5) as given below:
P1: timely arrival
P2: behaviour
P3: comfortable ride
P4: driver's familiarity with the route
P5: value for money

Based on feedback from the customers, the office assigns a rating from 1 to 5 in each of these parameters. Each rating is an integer from a low value of 1 to a high value of 5. The final rating of a driver is the average of his ratings in these five parameters. The monthly payment of the drivers has two parts - a fixed payment and final rating-based bonus. If a driver gets a rating of 1 in any of the parameters, he is not eligible to get bonus. To be eligible for bonus a driver also needs to get a rating of five in at least one of the parameters. The partial information related to the ratings of the drivers in different parameters and the monthly payment structure (in rupees) is given in the table below:

	P1	P2	P3	P4	P5	Fixed Payment	Bonus
Arun				4		Rs.1000	Rs.250 x Final Rating
Barun	3					Rs.1200	Rs.200 x Final Rating
Cahandan			2			Rs.1400	Rs.100 x Final Rating
Damodaran		3				Rs.1300	Rs.150 x Final Rating
Eman					2	Rs.1100	Rs.200 x Final Rating

The following additional facts are known.
1. Arun and Barun have got a rating of 5 in exactly one of the parameters. Chandan has got a rating of 5 in exactly two parameters.
2. None of drivers has got the same rating in three parameters.

Question 1

If Damodaran does not get a bonus, what is the maximum possible value of his final rating?

A 3.4

B 3.2

C 3.6

D 3.8

Answer: C

Question 2

If Eman gets a bonus, what is the minimum possible value of his final rating?

A 3.2

B 2.8

C 3.4

D 3.0

Answer: D

Question 3

If all five drivers get bonus, what is the minimum possible value of the monthly payment (in rupees that a driver gets?

LRDI 2020

A 1750

B 1600

C 1740

D 1700

Answer: D

Question 4

If all five drivers get bonus, what is the maximum possible value of the monthly payment (in rupees that a driver gets?

A 1960

B 2050

C 1950

D 1900

Answer: A

Instructions

1000 patients currently suffering from a disease were selected to study the effectiveness of treatment of four types of medicines — A, B, C and D. These patients were first randomly assigned into two groups of equal size, called treatment group and control group. The patients in the control group were not treated with any of these medicines; instead they were given a dummy medicine, called placebo, containing only sugar and starch. The following information is known about the patients in the treatment group.

a. A total of 250 patients were treated with type A medicine and a total of 210 patients were treated with type C medicine.
b. 25 patients were treated with type A medicine only. 20 patients were treated with type C medicine only. 10 patients were treated with type D medicine only.
c. 35 patients were treated with type A and type D medicines only. 20 patients were treated with type A and type B medicines only. 30 patients were treated with type A and type C medicines only. 20 patients were treated with type C and type D medicines only.
d. 100 patients were treated with exactly three types of medicines.
e. 40 patients were treated with medicines of types A, B and C, but not with medicines of type D. 20 patients were treated with medicines of types A, C and D, but not with medicines of type B.
f. 50 patients were given all the four types of medicines. 75 patients were treated with exactly one type of medicine.

Question 1

How many patients were treated with medicine type B?

Answer:340

Question 2

The number of patients who were treated with medicine types B, C and D, but not type A was:

Answer:10

Question 3

How many patients were treated with medicine types B and D only?

Answer:150

Question 4

The number of patients who were treated with medicine type D was:

Answer:325

Instructions

Four institutes, A, B, C, and D, had contracts with four vendors W, X, Y, and Z during the ten calendar years from 2010 to 2019. The contracts were either multi-year contracts running for several consecutive years or single-year contracts. No institute had more than one contract with the same vendor. However, in a calendar year, an institute may have had contracts with multiple vendors, and a vendor may have had contracts with multiple institutes. It is known that over the decade, the institutes each got into two contracts with two of these vendors, and each vendor got into two contracts with two of these institutes.

The following facts are also known about these contracts.
I. Vendor Z had at least one contract in every year.
II. Vendor X had one or more contracts in every year up to 2015, but no contract in any year after that.
III. Vendor Y had contracts in 2010 and 2019. Vendor W had contracts only in 2012.
IV. There were five contracts in 2012.
V. There were exactly four multi-year contracts. Institute B had a 7-year contract, D had a 4-year contract, and A and C had one 3-year contract each. The other four contracts were single-year contracts.
VI. Institute C had one or more contracts in 2012 but did not have any contract in 2011.
VII. Institutes B and D each had exactly one contract in 2012. Institute D did not have any contract in 2010.

Question 5

In which of the following years were there two or more contracts?

A 2017

B 2016

C 2015

D 2018

Answer: C

Question 6

Which of the following is true?

A B had a contract with Z in 2017

B B had a contract with Y in 2019

C D had a contract with X in 2011

D D had a contract with Y in 2019

Answer: D

Question 7

In how many years during this period was there only one contract?

A 3

B 2

C 4

D 5

Answer: A

Question 8

What BEST can be concluded about the number of contracts in 2010?

A exactly 4

B exactly 3

C at least 3

D at least 4

Answer: B

Question 9

Which institutes had multiple contracts during the same year?

A A only

B B and C only

C A and B only

D B only

Answer: C

Question 10

Which institutes and vendors had more than one contracts in any year?

A B, W, X, and Z

B A, B, W, and X

C A, D, W, and Z

D B, D, W, and X

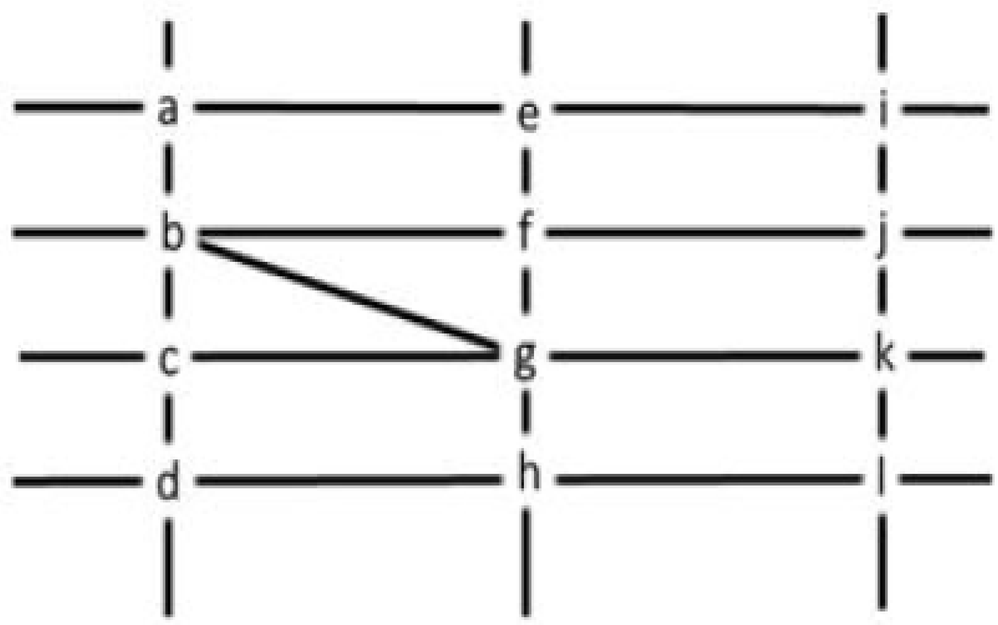
Answer: B

Previous Year DI-LR for CAT

CAT 2019

Comprehension 1:

Set 1: The figure below shows the street map for a certain region with the street intersections marked from a through l. A person standing at an intersection can see along straight lines to other intersections that are in her line of sight and all other people standing at these intersections. For example, a person standing at intersection g can see all people standing at intersections b, c, e, f, h, and k. In particular, the person standing at intersection g can see the person standing at intersection e irrespective of whether there is a person standing at intersection f.



Six people U, V, W, X, Y, and Z, are standing at different intersections. No two people are standing at the same intersection.

The following additional facts are known.

1. X, U, and Z are standing at the three corners of a triangle formed by three street segments.
2. X can see only U and Z.
3. Y can see only U and W.
4. U sees V standing in the next intersection behind Z.
5. W cannot see V or Z.
6. No one among the six is standing at intersection d.

Question 1:

Who is standing at intersection a?

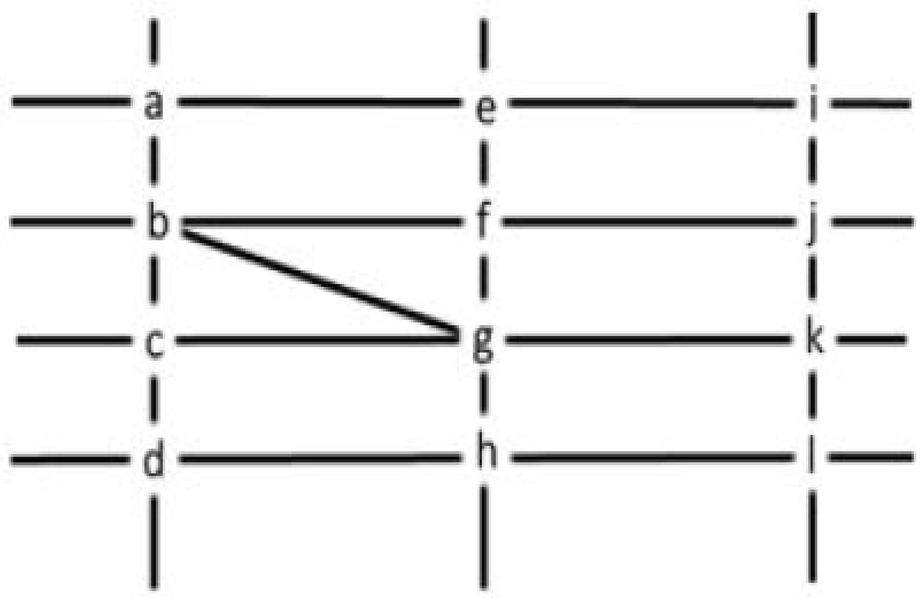
Correct Asswer: No one

Previous Year DI-LR for CAT

CAT 2019

Comprehension 2:

The figure below shows the street map for a certain region with the street intersections marked from a through l. A person standing at an intersection can see along straight lines to other intersections that are in her line of sight and all other people standing at these intersections. For example, a person standing at intersection g can see all people standing at intersections b, c, e, f, h, and k. In particular, the person standing at intersection g can see the person standing at intersection e irrespective of whether there is a person standing at intersection f.



Six people U, V, W, X, Y, and Z, are standing at different intersections. No two people are standing at the same intersection.

The following additional facts are known.

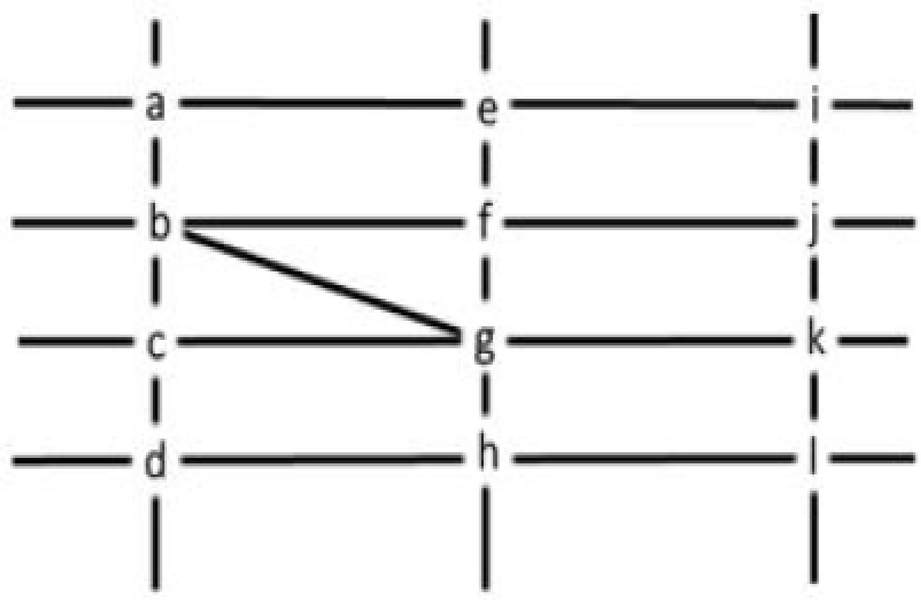
1. X, U, and Z are standing at the three corners of a triangle formed by three street segments.
2. X can see only U and Z.
3. Y can see only U and W.
4. U sees V standing in the next intersection behind Z.
5. W cannot see V or Z.
6. No one among the six is standing at intersection d.

Question 2: Who can V see?

Correct Answer: U and Z only

Comprehension 3:

The figure below shows the street map for a certain region with the street intersections marked from a through l. A person standing at an intersection can see along straight lines to other intersections that are in her line of sight and all other people standing at these intersections. For example, a person standing at intersection g can see all people standing at intersections b, c, e, f, h, and k. In particular, the person standing at intersection g can see the person standing at intersection e irrespective of whether there is a person standing at intersection f.



Six people U, V, W, X, Y, and Z, are standing at different intersections. No two people are standing at the same intersection.
The following additional facts are known.
1. X, U, and Z are standing at the three corners of a triangle formed by three street segments.
2. X can see only U and Z.
3. Y can see only U and W.
4. U sees V standing in the next intersection behind Z.
5. W cannot see V or Z.
6. No one among the six is standing at intersection d.

Question 3:
What is the minimum number of street segments that X must cross to reach Y?

Correct Answer: 3.2

A supermarket has to place 12 items (coded A to L) in shelves numbered 1 to 16. Five of these items are types of biscuits, three are types of candies and the rest are types of savouries. Only one item can be kept in a shelf. Items are to be placed such that all items of same type are clustered together with no empty shelf between items of the same type and at least one empty shelf between two different types of items. At most two empty shelves can have consecutive numbers.
The following additional facts are known.
1. A and B are to be placed in consecutively numbered shelves in increasing order.
2. I and J are to be placed in consecutively numbered shelves both higher numbered than the shelves in which A and B are kept.
3. D, E and F are savouries and are to be placed in consecutively numbered shelves in increasing order after all the biscuits and candies.
4. K is to be placed in shelf number 16.
5. L and J are items of the same type, while H is an item of a different type.
6. C is a candy and is to be placed in a shelf preceded by two empty shelves.
7. L is to be placed in a shelf preceded by exactly one empty shelf.

Question 4:
In how many different ways can the items be arranged on the shelves?

Correct Answer: 8
The total number of biscuits = 5, the total number of candies =3 and the total number of savouries = 12-(3+5)=4 Representing the candies as C, biscuits as B and savories as S. K is to be placed in shelf number 16.
D, E and F are savouries and are to be placed in consecutively numbered shelves in increasing order after all the biscuits and candies.
Since there is no empty shelf between the items of same type, D,E,F and K are savouries and placed at 13,14,15 and 16 respectively. This can be tabulated as follows:

Shelf No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Item Code													D	E	F	K
Item Type													S	S	S	S

The shelf 12 will be empty.
It is given that items are to be placed such that all items of same type are clustered together. From 1, A and B are to be placed in consecutively numbered shelves in increasing order. From 6, C is a candy and is to be placed in a shelf preceded by two empty shelves and from 7, L is to be placed in a shelf preceded by exactly one empty shelf.
Hence C and L are items of different types. Since C is a candy, L will be a biscuit. From 5, L and J are items of the same type, while H is an item of a different type. Since I and J are clustered together, I, J and L are biscuits and H is a candy. So C,H are candies and I,J,L are biscuits. It is given that A, B are place consecutively. Hence A and B are items of same types. So A, B should be biscuits because if they are candies, there will be 4 candies. Hence, I,J,L,A,B are biscuits and C,H and G are candies.
Now there are two empty shelves before C and exactly one empty shelf before L, then the different cases can be tabulated as follows:
Case 1:

Shelf No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Item Code	__	L	A	B	I/J	J/I	___	___	C	H/G	G/H	___	D	E	F	K
Item Type	__	B	B	B	B	B	___	___	C	C	C	___	S	S	S	S

Case 2:

Shelf No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Item Code	__	__	C	H/G	G/H	__	L	A	B	I/J	J/I	___	D	E	F	K
Item Type	__	__	C	C	C	___	B	B	B	B	B	___	S	S	S	S

The number of arrangements for the first case = 2*2=4
The number of arrangements for the second case = 2*2=4
The total number of arrangements = 4+4=8

Question 5:
Which of the following items is not a type of biscuit?

Correct Answer: G
The total number of biscuits = 5, the total number of candies =3 and the total number of savouries = 12-(3+5)=4 Representing the candies as C, biscuits as B and savories as S. K is to be placed in shelf number 16.
D, E and F are savouries and are to be placed in consecutively numbered shelves in increasing order after all the biscuits and candies.
Since there is no empty shelf between the items of same type, D,E,F and K are savouries and placed at 13,14,15 and 16 respectively. This can be tabulated as follows:

Shelf No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Item Code													D	E	F	K
Item Type													S	S	S	S

The shelf 12 will be empty.
It is given that items are to be placed such that all items of same type are clustered together. From 1, A and B are to be placed in consecutively numbered shelves in increasing order. From 6, C is a candy and is to be placed in a shelf preceded by two empty shelves and from 7, L is to be placed in a shelf preceded by exactly one empty shelf.
Hence C and L are items of different types. Since C is a candy, L will be a biscuit. From 5, L and J are items of the same type, while H is an item of a different type. Since I and J are clustered together, I, J and L are biscuits and H is a candy. So C,H are candies and I,J,L are biscuits. It is given that A, B are place consecutively. Hence A and B are items of same types. So A, B should be biscuits because if they are candies, there will be 4 candies. Hence, I,J,L,A,B are biscuits and C,H and G are candies.
Now there are two empty shelves before C and exactly one empty shelf before L, then the different cases can be tabulated as follows:

Case 1:

Shelf No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Item Code	__	L	A	B	I/J	J/I	___	___	C	H/G	G/H	___	D	E	F	K
Item Type	__	B	B	B	B	B	___	___	C	C	C	___	S	S	S	S

Case 2:

Shelf No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Item Code	__	__	C	H/G	G/H	__	L	A	B	I/J	J/I	___	D	E	F	K
Item Type	__	__	C	C	C	___	B	B	B	B	B	___	S	S	S	S

G is a candy. Hence D is the answer.

Logic Reasning:
A new game show on TV has 100 boxes numbered 1, 2, . . . , 100 in a row, each containing a mystery prize. The prizes are items of different types, a, b, c, . . . , in decreasing order of value. The most expensive item is of type a, a diamond ring, and there is exactly one of these. You are told that the number of items at least doubles as you move to the next type. For example, there would be at least twice as many items of type b as of type a, at least twice as many items of type c as of type b and so on. There is no particular order in which the prizes are placed in the boxes.

Question 6:
What is the maximum possible number of different types of prizes?
:
Correct Answer: 6
Explanation:
It is given that the most expensive item is a diamond ring of type a and there is exactly one of these. Since the number of items of type b should be at least twice of that of a and the number of items of type c should be at least twice of that of b and so on. So the maximum number of different

types of items of a, b and c will be obtained when a=1, b=2, c=4, d=8, e=16, f=69. Hence the maximum number of different types of items will be 6. If the number of items is 7, then the minimum number of prizes should be 1+2+4+8+16+32+64=127 which is more than 100.
Hence 6 is the answer.

Question 7:
Which of the following is not possible?
A There are exactly 75 items of type e.
B There are exactly 30 items of type b.
C There are exactly 45 items of type c.
D There are exactly 60 items of type d.

Correct Answer: There are exactly 45 items of type c.
Explanation:
Option A: There are exactly 75 items of type e.
a=1,b=2,c=4,d=8, e=85. Here the maximum value of e= 85.
Hence it can take the value 75.
An example of such case is a=1,b=2,c=4,d=18, e=75
Option B: There are exactly 30 items of type b.
a=1 b=30 and c=69. Hence this case is also possible.
Option C: There are exactly 45 items of type c.
Since the value of d should be at least 90, it means that d is not present because 45+90 will be more than
100(maximum number of items). Only a,b and c are present.
The maximum value of b = 22 and a =1, but 45+22+1=68, which is less than 100. So this case is not possible.
Option D: There are exactly 60 items of type d.
d=60, c=30, b=9 and a=1. a+b+c+d=100.
Hence this case is possible.
C is the answer.

Data Interpretation:
Question 8:
You ask for the type of item in box 45. Instead of being given a direct answer, you are told that there are 31 items of the same type as box 45 in boxes 1 to 44 and 43 items of the same type as box 45 in boxes 46 to 100.
What is the maximum possible number of different types of items?
A 5
B 6
C 4
D 3

Correct Answer: 5
Explanation:
The total number of items from 1 to 100, which are of same type as in box 45 = 31+1+43=75
Now to maximize the number of items, a=1, b=2, c=4, d=18 and e=75(given)
There can be maximum 5 types of items.
If we consider number of items to be 6, then minimum number of items of 5th type will be 16, 1+2+4+8+16+75=106
which is more than 100.

Question 9:
Two cars travel the same distance starting at 10:00 am and 11:00 am respectively, on the same day. They reach their common destination at the same point of time. If the first car travelled for at least 6 hours,
then the highest possible value of the percentage by which the speed of the second car could exceed that of the first car is

A 20
B 30
C 25
D 10

Correct Answer: A
Explanation:
Let the speed of cars be a and b and the distance =d
Minimum time taken by 1st car = 6 hours,
For maximum difference in time taken by both of them, car 1 has to start at 10:00 AM and car 2 has to start at 11:00 AM.
Hence, car 2 will take 5 hours.
Hence a= and b =
Hence the speed of car 2 will exceed the speed of car 1 by

$$\frac{\frac{d}{5} - \frac{d}{6}}{\frac{d}{6}} \times 100 = \frac{\frac{d}{30}}{\frac{d}{6}} \times 100 = 20$$

Question 10:
If a1, a2, ...are in A.P., then, $\frac{1}{\sqrt{a_1}+\sqrt{a_2}} + \frac{1}{\sqrt{a_2}+\sqrt{a_3}} + \ldots\ldots + \frac{1}{\sqrt{a_n}+\sqrt{a_{n+1}}}$ is equal to

A $\frac{n}{\sqrt{a_1}+\sqrt{a_{n+1}}}$

B $\frac{n-1}{\sqrt{a_1}+\sqrt{a_{n-1}}}$

C $\frac{n-1}{\sqrt{a_1}+\sqrt{a_n}}$

D $\frac{n}{\sqrt{a_1}-\sqrt{a_{n+1}}}$

Correct Answer: A

Explanation:

We have, $\frac{1}{\sqrt{a_1}+\sqrt{a_2}} + \frac{1}{\sqrt{a_2}+\sqrt{a_3}} + ... + \frac{1}{\sqrt{a_n}+\sqrt{a_{n+1}}}$

Now, $\frac{1}{\sqrt{a_1}+\sqrt{a_2}} = \frac{\sqrt{a_2}-\sqrt{a_1}}{(\sqrt{a_2}+\sqrt{a_1})(\sqrt{a_2}-\sqrt{a_1})}$ (Multiplying numerator and denominator by $\sqrt{a_2} - \sqrt{a_1}$)

$= \frac{\sqrt{a_2}-\sqrt{a_1}}{(a_2-a_1}$

$= \frac{\sqrt{a_2}-\sqrt{a_1}}{d}$ (where d is the common difference)

Similarly, $\frac{1}{\sqrt{a_2}+\sqrt{a_3}} = \frac{\sqrt{a_3}-\sqrt{a_2}}{d}$ and so on.

Then the expression $\frac{1}{\sqrt{a_1}+\sqrt{a_2}} + \frac{1}{\sqrt{a_2}+\sqrt{a_3}} + ... + \frac{1}{\sqrt{a_n}+\sqrt{a_{n+1}}}$

can be written as $\frac{1}{d}(\sqrt{a_2} - \sqrt{a_1} + \sqrt{a_3} - \sqrt{a_3} + ...\sqrt{a_{n+1}} - \sqrt{a_n}$

$= \frac{n}{nd}(\sqrt{a_{n+1}} - \sqrt{a_1})$ (Multiplying both numerator and denominator by n)

$= \frac{n(\sqrt{a_{n+1}}-\sqrt{a_1})}{a_{n+1}-a_1}$ $(a_{n+1} - a_1 = nd)$

$= \frac{n}{\sqrt{a_1}+\sqrt{a_{n+1}}}$

Question 11:

AB is a diameter of a circle of radius 5 cm. Let P and Q be two points on the circle so that the length of PB is 6 cm, and the length of AP is twice that of AQ. Then the length, in cm, of QB is nearest to

A 9.3

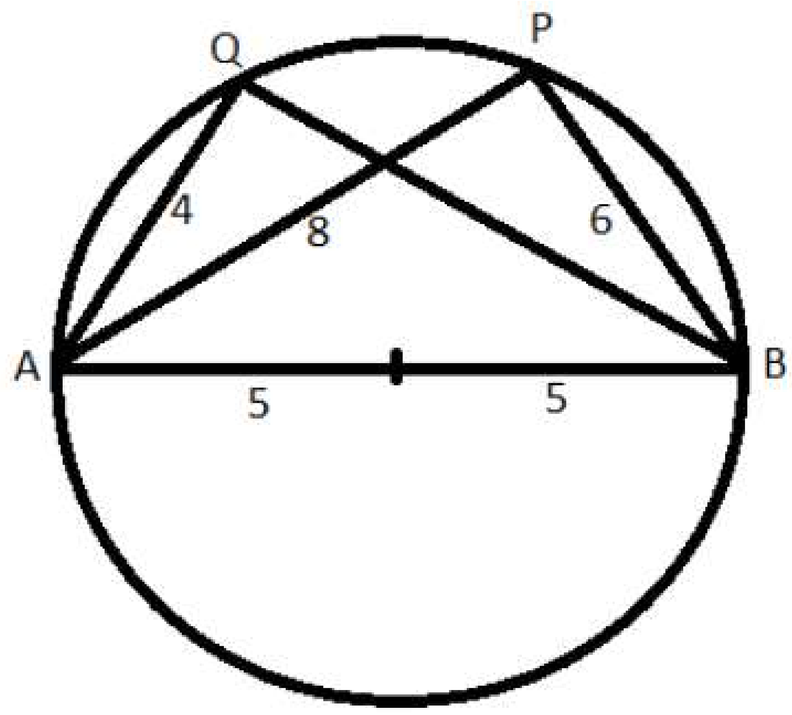
B 7.8

C 9.1

D 8.5

Correct Answer: 9.1

Explanation:



Since AB is a diameter, AQB and APB will right angles.

In right triangle APB, AP = $\sqrt{10^2 - 6^2} = 8$

Now, 2AQ=AP => AQ= 8/2=4

In right triangle AQB, AP = $\sqrt{10^2 - 4^2} = 9.165$ =9.1 (Approx)

Question 12:
The income of Amala is 20% more than that of Bimala and 20% less than that of Kamala. If Kamala's income goes down by 4% and Bimala's goes up by 10%, then the percentage by which Kamala's income would exceed Bimala's is nearest to
A 31
B 29
C 28
D 32

Correct Answer: 31
Explanation:
Assuming the income of Bimla = 100a, then the income of Amala will be 120a.
And the income of Kamala will be 120a*100/80=150a
If Kamala's income goes down by 4%, then new income of Kamala = 150a-150a(4/100) = 150a-6a=144a
If Bimla's income goes up by 10 percent, her new income will be 100a+100a(10/100)=110a
Hence the Kamala income will exceed Bimla income by (144a-110a)*100/110a=31

Set 3:
Directions: Study the following information carefully to answer these questions.
Eight friends P, M, R, T, Q, U, V& W are sitting in two opposite rows, facing each other. Each row has 4 persons. P is between U and V and is facing North. W is opposite to Q who is to the immediate left of M. R is between T and M. W is to the immediate right of V.

Question 1: Who is to the immediate right of R?
(a) T
(b) U
(c) M
(d) Cannot be determined
(e) None of these

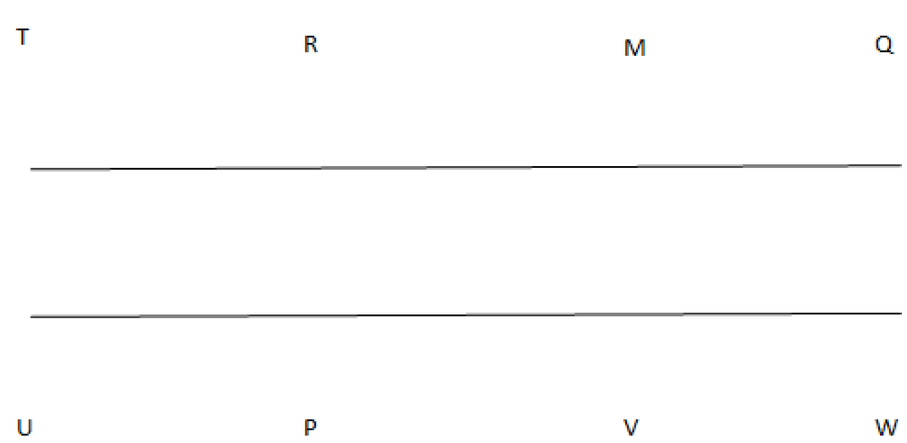
Question 2: Which of the following pairs has the person sitting opposite each other?
(a) MV
(b) RV
(c) TV
(d) UR
(e) None of these

Question 3: Four of the following five are alike in a certain way on the basis of their positions and so form a group. Which is the one that does not belong to the group?
(a) TP
(b) RV
(c) QP
(d) QV
(e) MW

Question 4: Which of the following pairs of persons has second person sitting to the immediate left of the first person?
(a) UP
(b) VP
(c) QM
(d) RT
(e) None of these

Question 5: Who is sitting opposite of R?
(a) U
(b) Q
(c) V
(d)P
(e) None of these

Correct Answer:



Answer 1: (a) T is to the right of R. The correct option is (a)

Answer 2: (a) M and V are sitting opposite each other. The correct option is (a)

Answer 3: (c) In first option, T is sitting opposite to U who is sitting immediate next to P. In the second option R is sitting opposite to P who is sitting next to V. The same pattern is followed in all the other options except the option (c).

Answer 4: (b) P is sitting left of V. Thus correct option is (b).

Answer 5: (d) P is sitting opposite of R

Set 4:
Direction: Seven people A, B, C, D, E, F and G are sitting in a circle. Five of them are facing the centre while two of them are facing opposite to the centre. C sits third to the left of D and both are facing the centre. E is neither an immediate neighbour of D nor of C. The one sitting exactly between D and F is facing opposite to the centre. G sits third to the right of A and G is facing the centre. One of B's neighbour is facing opposite to the centre.

Question 1: Which of the following pairs represents persons, facing opposite to the centre?
(a) A and F
(b) E and F
(c) A and E
(d) Cannot be determined
(e) None of these

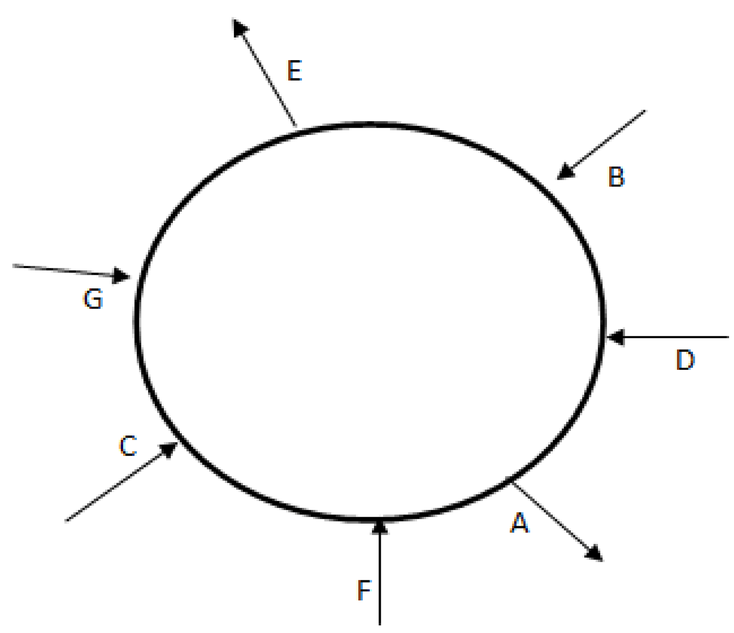
Question 2: Who is sitting second to the left of A?
(a) C
(b) G
(c) E
(d) B
(e) None of these

Question 3: Who is sitting to the immediate left of E?
(a) C
(b) G
(c) B
(d) A
(e) None of these

Question 4: What is the position of F with respect to B?
(a) Fourth to the left
(b) Second to the right
(c) Third to the right
(d) Second to the left
(e) None of these

Question 5: If all the persons are asked to sit in a clockwise direction in an alphabetical order starting from A, the position of how many will remain unchanged, excluding A?
(a) Three
(b) One
(c) Two
(d) None
(e) Four.

Correct Answer:



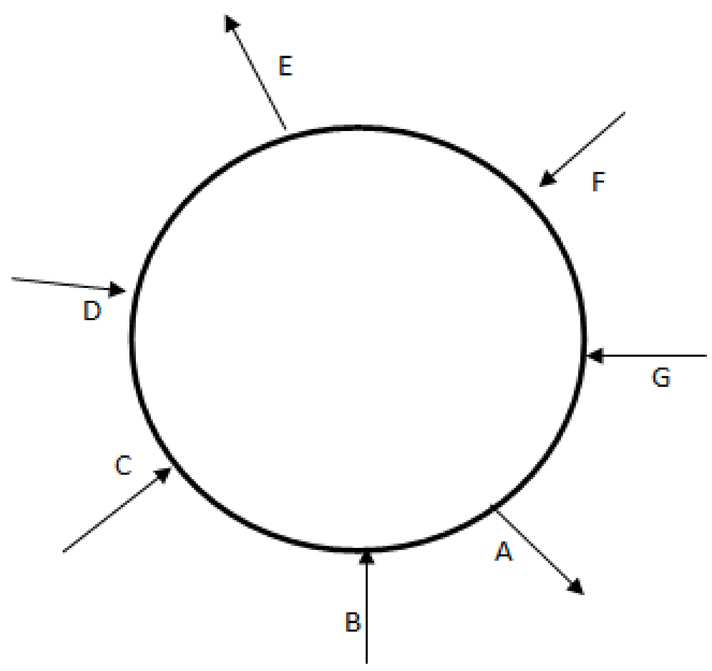
Answer 1: (c) A and E are the pair facing opposite to the centre.
Correct option is (c)

Answer 2: (d) B sits second to the left of A. Correct option is (d)

Answer 3: (b) G is sitting to the immediate left of E. Correct option is (b)

Answer 4: (e) F is third to the left of B. Correct option is (e).

Answer 5: (c) When everyone sits in the clockwise direction, in an alphabetical order starting from A, then the order will be



Set 5:
Directions : Study the following information carefully and answer the questions. A, B, C, D, E, F, G and H are sitting around a circle, facing the centre. A sits fourth to the right of H while second to the left of F. C is not the neighbor of F and B. D sits third to the right of C. H never sits next to G.

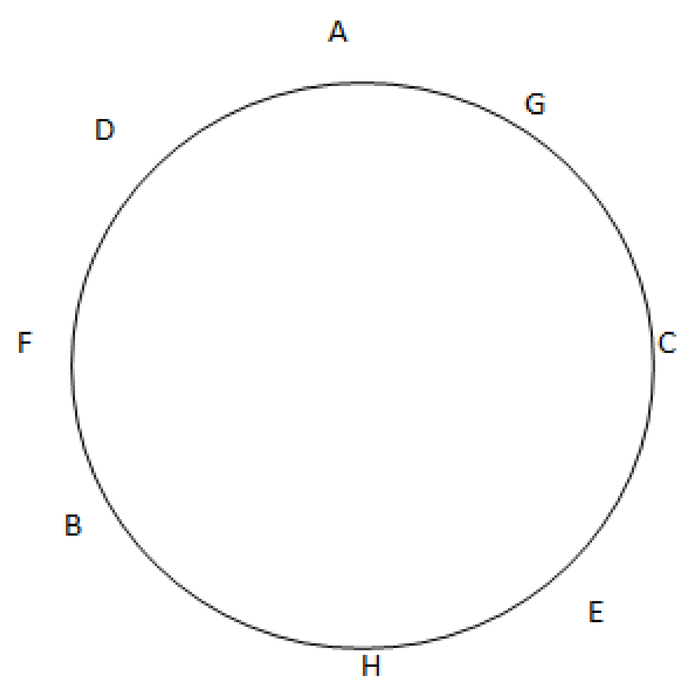
Question 1: Who amongst the following sits between B and D?
(a) G
(b) F
(c) H
(d) A
(e) C

Question 2: Which of the following pairs sit between H and G?
(a) BH
(b) EF
(c) CE
(d) DB
(e) None of these

Question 3: Four of the following five are alike in a certain way based on their positions in the seating arrangement and so form the group. Which is the one that does not belong to that group?
(a) AE
(b) HF
(c) BD
(d) GE
(e) CH

Question 4: Who is to immediate right of A?
(a) C
(b) D
(c) G
(d) Data inadequate
(e) None of these

Correct Answer:



Answer 1: (b) F is between B and D

Answer 2: (c) CE sit between H and G.

Answer 3: (a) Except (a) all option have people sitting with exactly one person in between.

Answer 4: (b) D is to the right of A.

Answer 5: (d) E sits second to the right of B.

Answer 6: (e) B is third to left and fifth to the right of C.

Set 6:
Directions: Study the following information to answer the given questions:
L, M, N, O, P, Q and R are sitting around a circle facing the centre. O is sitting between L and R. Q is second to the right of R and P is second to the right of Q. N is not an immediate neighbour of R.

Question 1: Which of the following is not correct?
(a) R is second to the right of L
(b) M is second to the left of N
(c) L sits exactly between O and P
(d) P and N are immediate neighbours
(e) P sits to the opposite of N

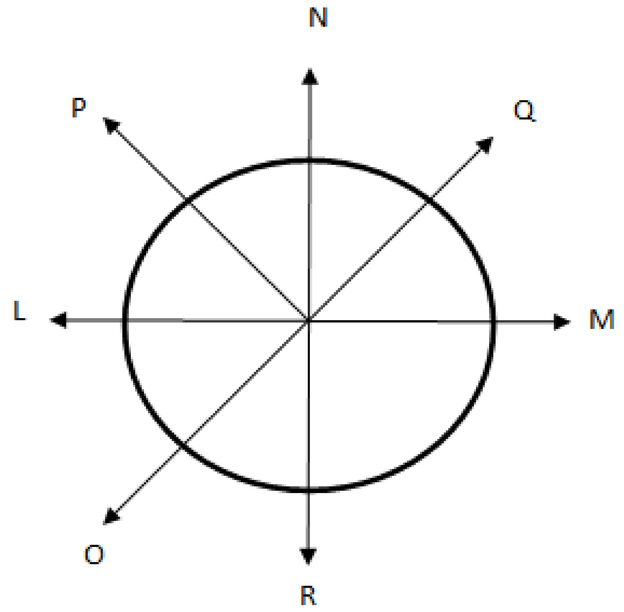
Question 2: How many persons are seated between L and Q if we count anticlockwise from L to Q?
(a) One
(b) Two
(c) Three
(d) Four
(e) More than four

Question 3: Who is to the immediate left of P?
(a) L
(b) N
(c) M
(d) O
(e) None of these

Question 4: Four of the following five are alike in a certain way based on their seating positions in the above arrangement and so form a group. Which is the one that does not belong to the group?
(a) QPN
(b) MOR
(c) LRO
(d) RQM
(e) ROL

Question 5: Four of the following five are alike in a certain way based on their seating positions in the above arrangement and so form a group. Which is the one that does not belong to the group?
(a) LP
(b) RM
(c) MQ
(d) NP
(e) OR

Correct Answer:



Answer 1: (e) P sits by the side of N. Correct option is (e).

Answer 2: (c) There are 3 people in the anti-clock wise direction between L and Q. Correct option is (c).

Answer 3: (b) N is to the immediate left of P. Correct option is (b).

Answer 4: (e) Unlike all other options ROL are in order in clockwise direction. Correct option is (e).

Answer 5: (a) The 2nd letter is to the right of the first. Thus LP is not following the rule. Correct option is (a)

Set 7:
Direction for the questions : Study the following information to answer the given questions: A, B, C, X, Y, Z are seated in a straight line facing North C is third to the right of Z and B sits second to the right of C. X sits to the immediate right of A.

Question 1: Which of the following represents the pairs of persons sitting exactly in the middle of the line?
(a) XB
(b) ZB
(c) BX
(d) XC
(e) XY

Question 2: What is X's position with respect to Z?
(a) Immediate right of Z
(b) Second to the left
(c) Third to the right
(d) Second to the right
(e) None of these

Question 3: Four of the following five are alike in a certain way based on their seating positions in the above arrangement and so form a group. Which is the one that does not belong to the group?
(a) ZA
(b) XC
(c) CY
(d) YB
(e) XA

Correct Answer:

1	2	3	4	5	6
Z	A	X	C	Y	B

Answer 1: (d) XC is in the middle. Correct option is (d).

Answer 2: (d) X is 2nd to the right of Z. Correct option is (d)

Answer 3: (e) The first letter is to the immediate left of A. Correct option is (e).

Answer 4: (a) X is the person between A and C. Correct option is (a)

Previous Year DI-LR for CAT

CAT 2017

Set 1: Airlines Company
A new airlines company is planning to start operations in a country. he company has identified ten different cities which they plan to connect hrough their network to start with. The flight duration between any pair of cities will be less than one hour. To start operations, the company has to decide on a daily schedule.
The underlying principle that they are working on is the following:
Any person staying in any of these 10 cities should be able to make a trip to any other city in the morning and should be able to return by the evening of the same day

Question 1:
If the underlying principle is to be satisfied in such a way that the journey between any two cities can be performed using only direct (non-stop) flights, then the minimum number of direct flights to be scheduled is:

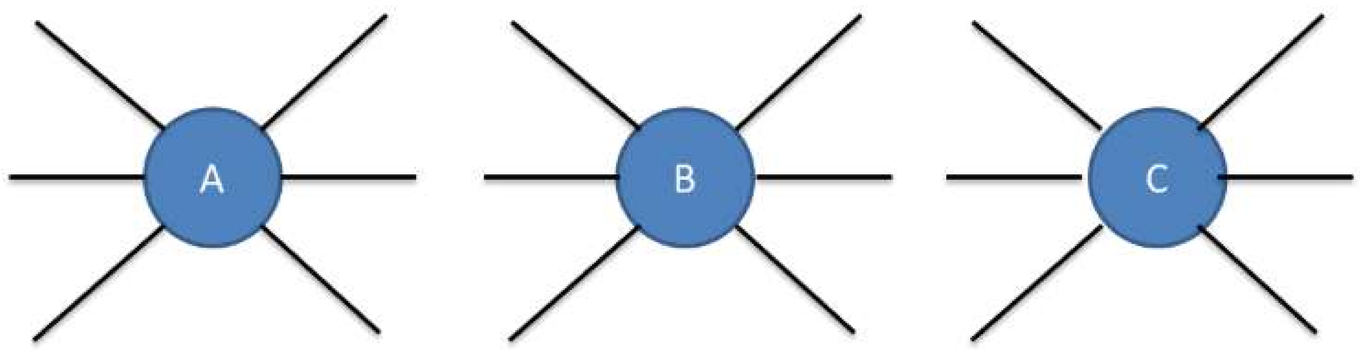
- 45
- 180
- 90
- 135

Correct Answer:

Let us consider Cities A and B.
As per the underlying principle any person should be able to take a round trip between the two cities in the same day.
So, from A to B and vice versa (B to A) one flight should leave from each city in the morning and similarly in the evening, two flight should leave for the person to reutrn.

A total 4 flight are to be operate between any 2 cities.
We can select 2 cities out of 10 cities in 10C2 = 45 ways.
Four flights from a pair of cities, therefore total of 45 * 4 = 180 flights.

Question 2:
Suppose three of the ten cities are to be developed as hubs. A hub is a city which is connected with every other city by direct flights each way, both in the morning as well as in the evening. The only direct flights which will be scheduled are originating and/or terminating in one of the hubs. Then the minimum number of direct flights that need to be scheduled so that the underlying principle of the airline to serve all the ten cities is met without visiting more than one hub during one trip is:



- 54
- 96
- 120
- 60

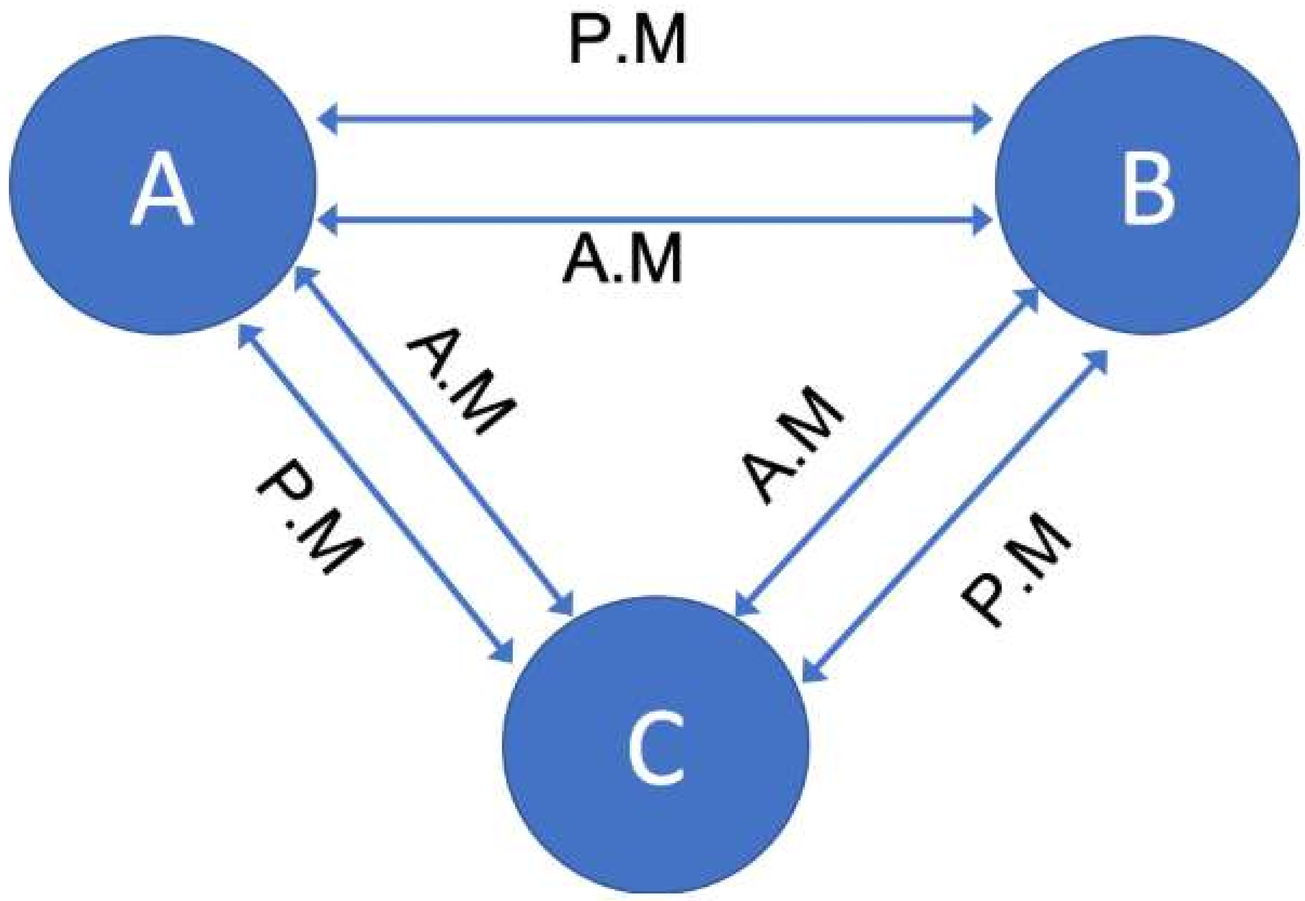
Correct Answer: 96

Consider 3 cities A,B and C to be the hub cities. So, any flight from hub city and towards hub city are direct flights.

Also, it has to satifsy the underlying principle of the airline.

For the moment, let us forget about the underlying principle.

:



In the first step, forget about the flights between the three hub cities. Consider only one hub city, say A. So, it will have direct flights with 7 other non hub cities D,E,F,G,H,I and J.
As observed in the previous question, in order to satisfy the underlying principle, 4 flights should be connected to each of the 7 seven cities. So, a total of 7 * 4 = 28 flights are to be operated per hub city.
Similarly, the other two hub cities B and C will have 28 flights each to the other 7 non-hub cities.
Therefore, the total no. of flight will be 28 + 28 + 28 = 84.
But, we still have to account for the flights between the hub cities.
The three cities can be connected by direct flights.
Similarly, if we account for the flights between any two hub cities, a total of 4 flights will have to be operated between the cities such that they satisfy the underlying principle.

For 3 such parirs (AB, BC and AC), we have 4 * 3 = 12 flights.
Total number of flights to be operated = 84 + 12 = 96 flights.

Question 3:
uppose the 10 cities are divided into 4 distinct groups G1, G2, G3, G4 having 3, 3, 2 and 2 cities respectively and that G1 consists of cities named A, B and C. Further, suppose that direct flights are allowed only between two cities satisfying one of the following:

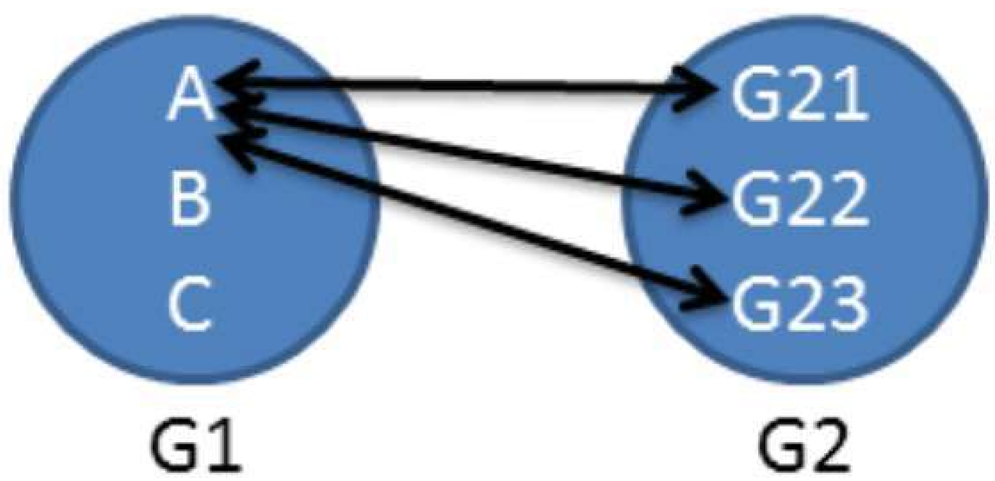
1. Both cities are in G1
2. Between A and any city in G2
3. Between B and any city in G3
4. Between C and any city in G4

Then the minimum number of direct flights that satisfies the underlying principle of the airline is: (TITA)

Correct Answer : 40 Flights

First consider the flights to G2.

But, only flight from and to A can be allowed for cities in G2.



So, between A and G21, 4 flights should be operated (morning/evening and to/from).
Similarly between A-G22 and A-G23.
Total flight = 4 + 4 + 4 = 12 flights
Similarly, G3 consists of two cities and can only be connected to city B.
Therefore, total flights = 4 + 4 = 8.
And, for G4 flights are connected only to city C.
Total flights = 4 + 4 = 8
Finally, we have to consider flights within G1.
As stated in the previous questions, the total number of flights between the hub cities is 4 + 4 + 4 = 12.
Minimum no. of flights to be opeated = 12 + 8 + 8 + 12 = 40 flights.

Previous Year DI-LR for CAT

CAT 2017

Set 2 : Assets
An old woman had the following assets:
(a) Rs. 70 lakh in bank deposits
(b) 1 house worth Rs. 50 lakh
(c) 3 flats, each worth Rs. 30 lakh
(d) Certain number of gold coins , each worth Rs. 1 lakh

She wanted to distribute her assets among her three children; Neeta, Seeta and Geeta. The house, any of the flats or any of the coins were not to be split. That is, the house went entirely to one child; a flat went to one child and similarly, a gold coin went to one child.
Among the three, Neeta received the least amount in bank deposits, while Geeta received the highest. The value of the assets was distributed equally among the children, as were the gold coins.

Question 1:
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How much did Seeta receive in bank deposits (in lakhs of rupees)?

- 30
- 20
- 40
- 10

Correct Answer: 40

Let us compute the total asset base = This is Rs. 70 lakhs + Rs. 50 lakhs + Rs. 3 * 30 lakhs + n (Where number of gold coins is n).
Or, 210 lakhs + n is what the total asset base. This is equally distributed, or n should be a multiple of 3. So, let us rewrite n as 3m. Let us say the total asset base is 210 + 3m. Each child should get 70 + m.

The gold coins were also equally distributed. This tells us that each child got m gold coins each.This makes life simple. Now, the non-gold coin part should have been equally distributed. So, each child should have gotten Rs. 70 lakhs worth stuff. What can we infer from here?

So, each child should have gotten Rs. 70 lakhs worth stuff. 1. Whoever gets the house cannot get a flat. Or, the person who gets the house should get Rs. 20 lakhs in cash.
2. No one can get all three flats. So, the flats get distributed as 1 and 2 to the two remaining children. So, one child gets House + Rs. 20 lakhs, one get one flat plus Rs. 40 lakhs, and the third received two flats and Rs. 10 lakhs.
3. Beyond all this they receive an equal number of gold coins.
No one can get all three flats. So, the flats get distributed as 1 and 2 to the two remaining children. So, one child gets House + Rs. 20 lakhs, one gets one flat plus Rs. 40 lakhs, and the third received two flats and Rs. 10 lakhs. Neeta receives 2 flats and Rs. 10 lakhs, Geeta receives one flat and Rs. 40 lakhs and Seeta gets house and Rs. 20 lakhs.
From the stem, it is clear that Seeta receives a house and Rs. 20 lakhs in bank deposits.

Question 2:
How many flats did Neeta receive? (TITA)

Correct Answer: 2 flats
Let us compute the total asset base = This is Rs. 70 lakhs + Rs. 50 lakhs + Rs. 3 * 30 lakhs + n (Where number of gold coins is n).
Or, 210 lakhs + n is what the total asset base. This is equally distributed, or n should be a multiple of 3. So, let us rewrite n as 3m. Let us say the total asset base is 210 + 3m. Each child should get 70 + m. The gold coins were also equally distributed. This tells us that each child got m gold coins each.

This makes life simple. Now, the non-gold coin part should have been equall distributed. So, each child should have gotten Rs. 70 lakhs worth stuff. What can we infer from here?

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3. Beyond all this they receive an equal number of gold coins.
No one can get all three flats. So, the flats get distributed as 1 and 2 to the two remaining children. So, one child gets House + Rs. 20 lakhs, one gets one flat plus Rs. 40 lakhs, and the third received two flats and Rs. 10 lakhs.
Neeta receives 2 flats and Rs. 10 lakhs, Geeta receives one flat and Rs. 40 lakhs and Seeta gets house and Rs. 20 lakhs.
Neeta got 2 flats.

Set 3 : Chessboard
In an 8 X 8 chessboard a queen placed anywhere can attack another piece if the piece is present in the same row, or in the same column or in any diagonal position in any possible 4 directions, provided there is no other piece in between in the path from the queen to that piece. The columns are labelled a to h (left to right) and the rows are numbered 1 to 8 (bottom to top). The position of a piece is given by the combination of column and row labels. For example, position c5 means that the piece is in cth column and 5th row.

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Question 1:

If the queen is at c5, and the other pieces at positions c2, gl, g3, g5 and a3, how many are under attack by the queen? There are no other pieces on the board.

- 2
- 3
- 4
- 5

Correct Answer: 4

The columns are labelled a to h (left to right) and the rows are numbered 1 to 8 (bottom to top). The position of a piece is given by the combination of column and row labels

	a	b	c	d	e	f	g	h
1								
2					e2			
3								
4								
5			c5					
6								
7							g7	
8								

The total no. of ways is 4, as shown in the figure below

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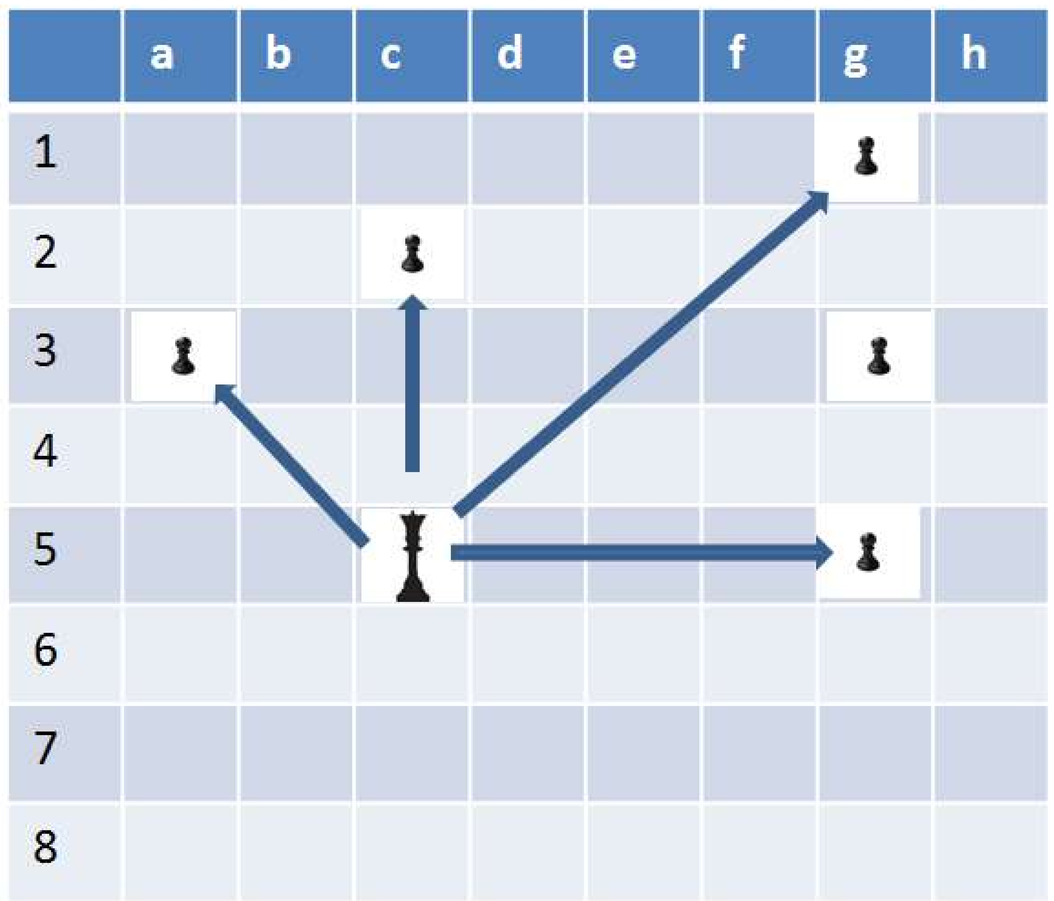
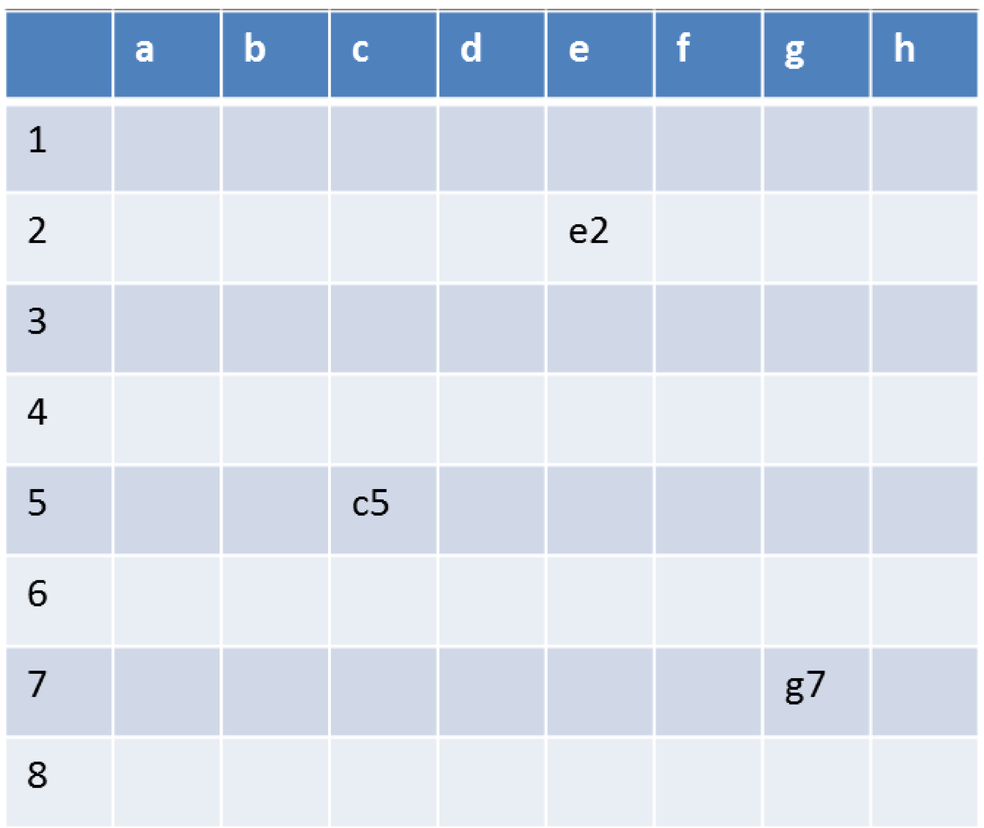


Question 2:

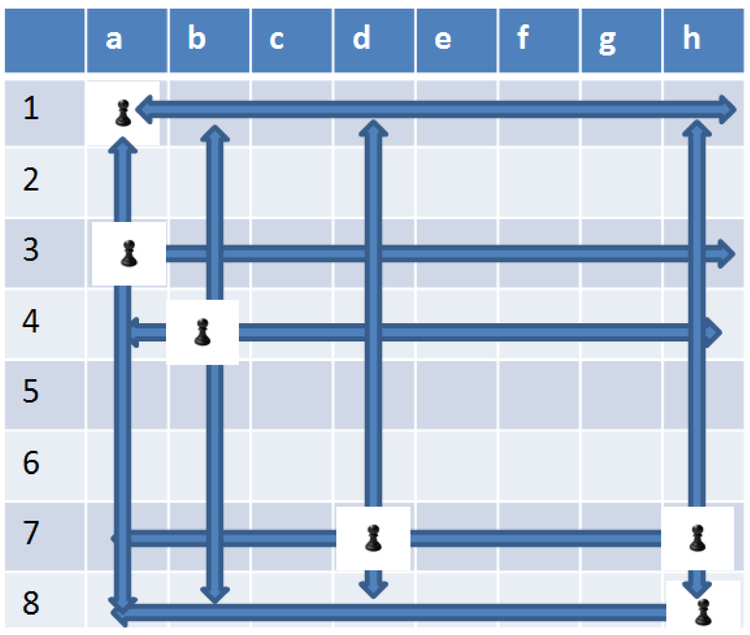
If the other pieces are only at positions al, a3, b4, d7, h7 and h8, then from how many positions the queen cannot attack any of the pieces?

- 0
- 4
- 3
- 6

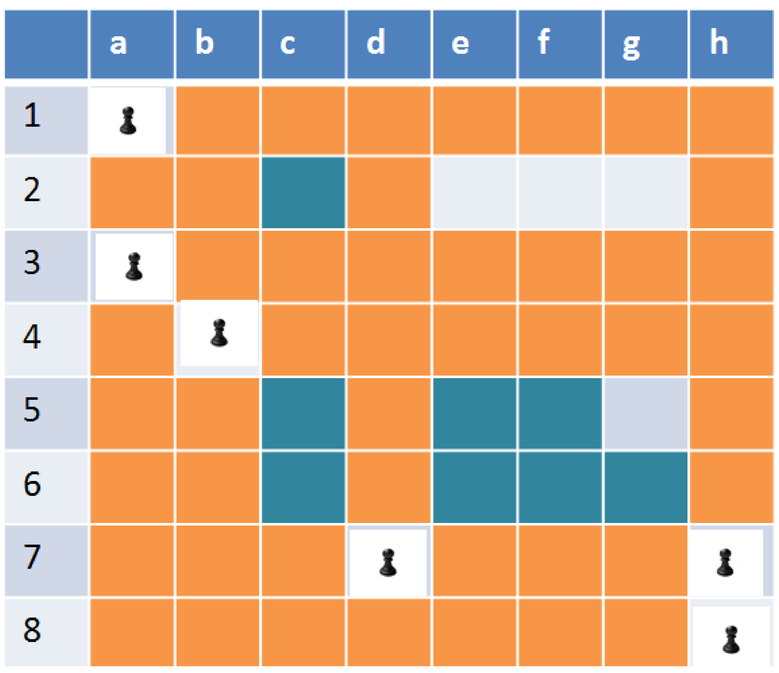
Correct Answer: 4



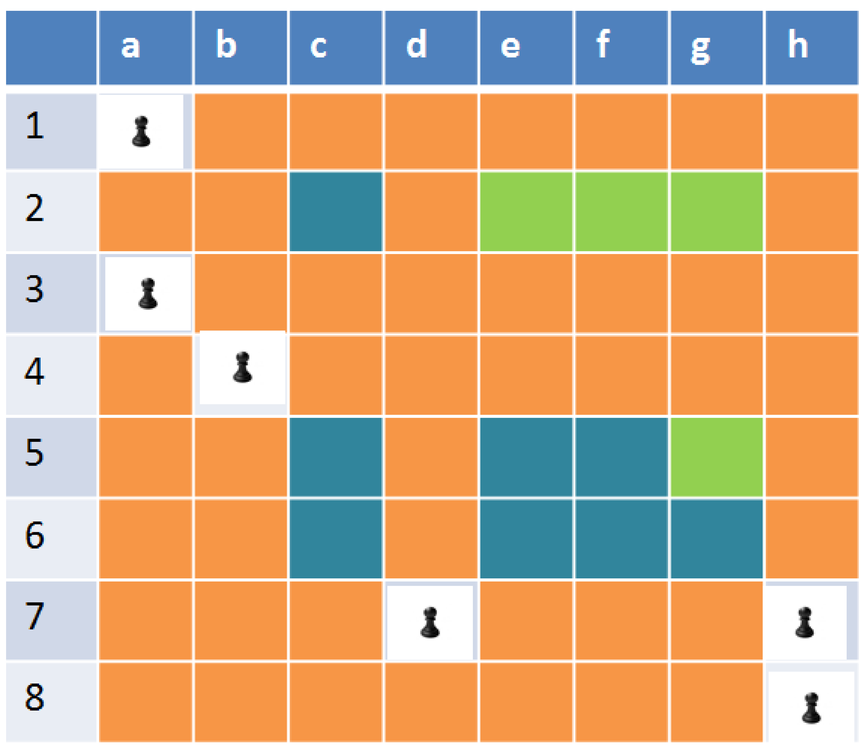
Let us think about the cells that will definitely get covered.
We eliminate 5 rows and 4 columns straight-away



Now, let us go after the diagonals.



There are 4 cells remaining



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Question 3:
Suppose the queen is the only piece on the board and it is at position d5. n how many positions can another piece be placed on the board such that it is safe from attack from the queen?

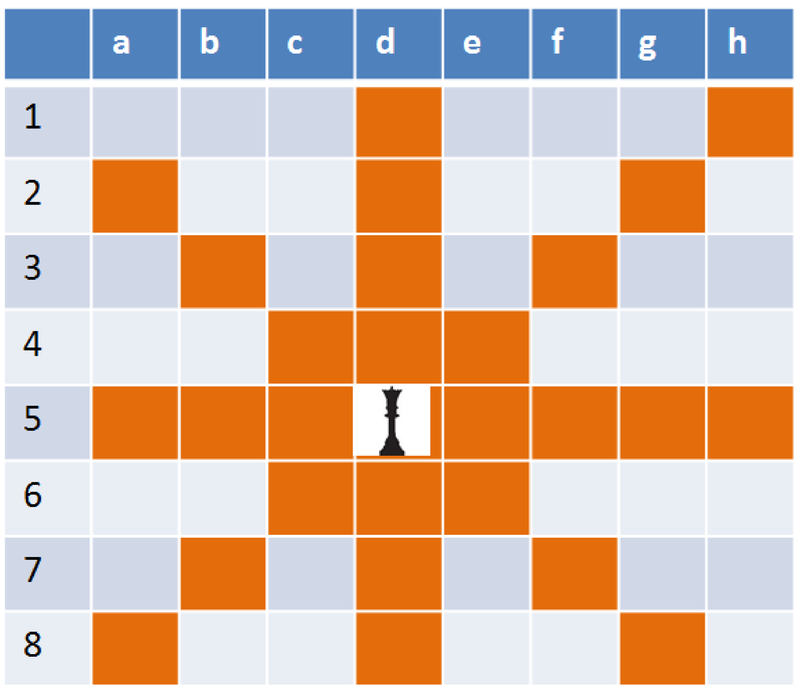
- 32
- 36
- 35
- 37

Correct Answer: 36
The columns are labelled a to h (left to right) and the rows are numbered 1 to 8 (bottom to top). The position of a piece is given by the combination of column and row labels.

	a	b	c	d	e	f	g	h
1								
2					e2			
3								
4								
5			c5					
6								
7							g7	
8								

A row, a column and two diagonals are out.
Each of these has 8 squares.But there will be overlaps here.

Squares under attack = 8 + 7 + 7 + 6 = 28 (including the One the queen is on)
Squares not under attack = 36



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Set 4 : Funky Pizzeria

Funky Pizzeria was required to supply Pizzas to three different parties. The total number of Pizzas it had to deliver was 800. 70% of which was to be delivered to Party 3 and the rest equally divided between Party 1 and Party 2.

Pizzas could be of Thin Crust (T) or Deep Dish (D) variety and come in either Normal Cheese (NC) or Extra Cheese (EC) versions. Hence, there are 4 types of Pizzas: T – NC, T – EC, D-NC, D-EC. Partial information about proportions of T and NC pizzas ordered by the three parties are given below.

	Thin Crust(T)	Normal Cheese(NC)
Party 1	0.6	
Party 2	0.55	0.3
Party 3		0.65
Total	0.375	0.52

Question 1:
How many Thin Crust pizzas were to be delivered to Party 3?

- 398
- 196
- 162
- 364

Correct Answer: 162

First, let us get some simple numbers in place. 70% of 800 people attended Party 3. Or, 560 people attended this party. The remaining 240 were split equally, or 120 each on Party 1 and Party 2.

	Thin Crust(T)	Normal Cheese(NC)
Party 1	0.6	
Party 2	0.55	0.3
Party 3		0.65
Total	0.375	0.52

Now, let us look at these decimals. 0.6 = 3/5; 0.55 = 11/20; 0.3 = 3/10; 0.65 = 13/20;
The best of the fractions is 0.375 which is 3/8; this helps a lot. Now, we know that we are going to fill data in two classifications T or D and NC or EC. So, let us capture data also in these two formats

	T	D
Party 1	0.6 of 120	Remaining
Party 2	0.55 of 120	Remaining
Party 3	Remaining	??
Total	3/8 of 800	Remaining

	NC	EC
Party 1	Remaining	?
Party 2	0.3 of 120	Remaining
Party 3	0.65 of 560	Remaining
Total	0.52 of 800	Remaining

After we create these two tables, it is just a matter of filling the numbers in.

	T	D
Party 1	72	Remaining
Party 2	66	Remaining
Party 3	Remaining	??
Total	300	500

	NC	EC
Party 1	Remaining	?
Party 2	36	84
Party 3	364	196
Total	416	384

Once some numbers are present, the rest fill in automatically

	T	D
Party 1	72	48
Party 2	66	54
Party 3	162	398
Total	300	500

	NC	EC
Party 1	16	104
Party 2	36	84
Party 3	364	196
Total	416	384

From the table, we can see that the no. of thin crust pizzas delivered to Party 3 is 162.

Question 2:
How many Normal Cheese pizzas were required to be delivered to Party 1?

- 104
- 16
- 84
- 196

Correct Answer: 16

First, let us get some simple numbers in place. 70% of 800 people attended Party 3. Or, 560 people attended this party. The remaining 240 were split equally, or 120 each on Party 1 and Party 2.

	Thin Crust(T)	Normal Cheese(NC)
Party 1	0.6	
Party 2	0.55	0.3
Party 3		0.65
Total	0.375	0.52

Now, let us look at these decimals. 0.6 = 3/5; 0.55 = 11/20; 0.3 = 3/10; 0.65 = 13/20;
The best of the fractions is 0.375 which is 3/8; this helps a lot. Now, we know that we are going to fill data in two classifications T or D and NC or EC. So, let us capture data also in these two formats

	T	D
Party 1	0.6 of 120	Remaining
Party 2	0.55 of 120	Remaining
Party 3	Remaining	??
Total	3/8 of 800	Remaining

	NC	EC
Party 1	Remaining	?
Party 2	0.3 of 120	Remaining
Party 3	0.65 of 560	Remaining
Total	0.52 of 800	Remaining

After we create these two tables, it is just a matter of filling the numbers in.

	T	D
Party 1	72	Remaining
Party 2	66	Remaining
Party 3	Remaining	??
Total	300	500

	NC	EC
Party 1	Remaining	?
Party 2	36	84
Party 3	364	196
Total	416	384

Once some numbers are present, the rest fill in automatically

	T	D
Party 1	72	48
Party 2	66	54
Party 3	162	398
Total	300	500

	NC	EC
Party 1	16	104
Party 2	36	84
Party 3	364	196
Total	416	384

From the table, we can see that the no. of Normal Cheese pizzas delivered to Party 1 is 16.

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Logic Reasoning:

Set 1:
Directions: P, Q, R, S, T, U, V & W are eight friends sitting in a circle facing towards the centre.
(i) W is to the immediate left of P but is not the neighbour of T and S.
(ii) U is to the immediate right of Q and V is a neighbour of T.
(iii) R is between T and U.

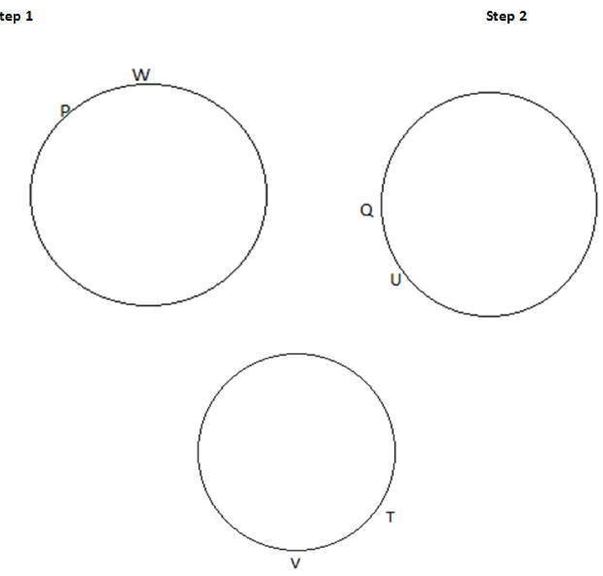
Question 1: What is the position of V?
(a) To the immediate right of W
(b) Between T and R
(c) Third to the right of U
(d) Second to the left of S
(e) None of these

Question 2: What is the position of S?
(a) Between Q and U
(b) To the immediate left of P
(c) Second to the right of U
(d) To the immediate left of Q
(e) None of these

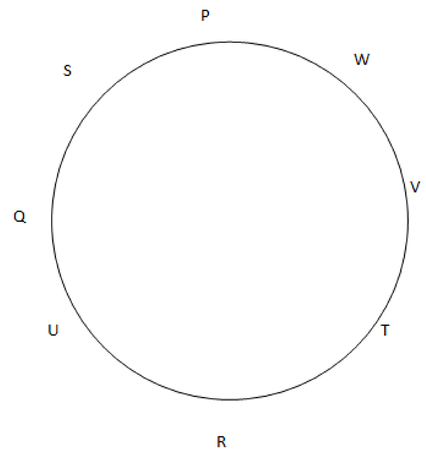
Question 3: Which of the following statements is true?
(a) U is the neighbour of V
(b) V is between W and T
(c) W is between P and S
(d) T is between U and Q
(e) None of these

Correct Answer:

W is not a neighbour of T and S



From the above diagrams, we can make the following final diagram.



Answer 1: (c) The position of V is third to the right of U. Correct option is (c).

Answer 2: (d) The correct position of S is to the immediate left of Q. Correct option is (d)

Answer 3: (b) From the given information, we can make the following diagram. Hence, V is between W and T.

Set 2:
Directions: Study the following information to answer the given questions:
L, M, N, O, P, Q and R are sitting around a circle facing the centre. O is sitting between L and R. Q is second to the right of R and P is second to the right of Q. N is not an immediate neighbour of R.

Question 1: Which of the following is not correct?
(a) R is second to the right of L
(b) M is second to the left of N
(c) L sits exactly between O and P
(d) P and N are immediate neighbours
(e) P sits to the opposite of N

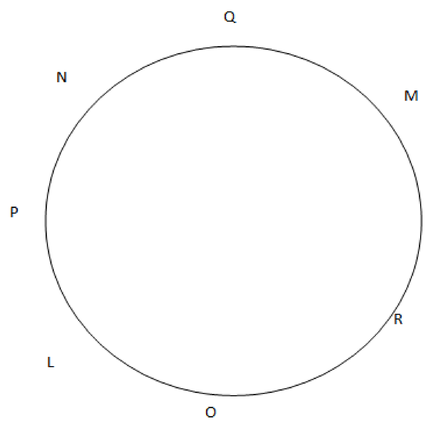
Question 2: How many persons are seated between L and Q if we count anticlockwise from L to Q?
(a) One
(b) Two
(c) Three
(d) Four
(e) More than four

Question 3: Who is to the immediate left of P?
(a) L
(b) N
(c) M
(d) O
(e) None of these

Direction for Question 4 and 5
Question 4: Four of the following five are alike in a certain way based on their seating positions in the above arrangement and so form a group. Which is the one that does not belong to the group?
(a) QPN
(b) MOR
(c) LRO
(d) RQM
(e) ROL

Question 5: Which is the one that does not belong to the group?
(a) LP
(b) RM
(c) MQ
(d) NP
(e) OR

Correct Answer:



Answer 1: (e) P sits by the side of N Hence it is incorrect. Correct option is (e).

Answer 2: (c) There are 3 people in the anti-clock wise direction between L and Q. Correct option is (c).

Answer 3: (b) N is to the immediate left of P. Correct option is (b).

Answer 4:(e) Unlike all other options ROL are in order in clockwise direction. Correct option is (e).

Answer 5: (a) In all the options except the 1st, the 2nd person is sitting to the right of the first person. Hence, correct option is (a)

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