IIM CAT · LRDI

Logical Reasoning & Data Interpretation Notes

Handwritten LRDI concepts and worked set-types, curated for the final stretch.

Curated for CAT aspirants

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Tabular Arrangement

Saathi

Sol. Four couples went for outings in their respective cars. Each of the couples went to a different places from among Goa, Pune, Mumbai, Delhi.

(1) Punith is not married to Punam and he did not have swift car.

(2) Nitin Mittal and his wife had been to Pune and did not travel by a Maruti800 car.

(3) Rajiv and his wife Reena did not have Nano car and they didn't go to Mumbai.

(4) Kavya did not have Soni as her surname and had been to Goa.

(5) Ms & Mr Sharma did not use a swift car.

(6) The couple that have a santro car went to Mumbai.

(7) Abhay, who was not married to Meena Jain, has Nano car but did not go to Delhi.

Saathi

Date __/__/__

	Husband	Wife	Surname	Car	Place
1	Punish	Meena	Jain	Santro	Mumbai
		Punam$^{\times}$		Swift$^{\times}$	
2	Nitin	Punam	Mittal	Swift	Pune
				Maruti800$^{\times}$	
3	Rajiv	Reena	Soni	Maruti800	Delhi
				Nano$^{\times}$	Mumbai$^{\times}$
4	Abhay	Kavya	Sharma	Nano	Goa
		Meena$^{\times}$	Soni$^{\times}$ Jain$^{\times}$		Delhi$^{\times}$

From point ① Punish - Punam$^{\times}$ - Swift$^{\times}$

② ~~Mittal~~

② Nitin's surname is Mittal, he went to Pune. & ~~boss~~

Nitin - Mittal$^{\checkmark}$, Pune$^{\checkmark}$, Maruti800$^{\times}$

③ Rajiv - Reena$^{\checkmark}$, Nano$^{\times}$, Mumbai$^{\times}$

④ Kavya - Goa$^{\checkmark}$, Soni$^{\times}$

⑤ Abhay - Meena$^{\times}$, Jain$^{\times}$, Delhi$^{\times}$, Nano$^{\checkmark}$

Now, only Punish's wife & Surname column is empty & from the information Meena Jain is only fulfilling the condition.

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Kavya went to goa so suitable place is in Abhay's column & Soni el surname does not go with Kavya so it goes with Rajiv.

And the only surname left for Abhay is Sharma.

Nitin's wife is puram the only wife option left.

Now Rajiv can't go to Mumbai so he went to Delhi and then Punish went to Mumbai.

Couple having santro car went to Mumbai so punish have santro car

Nitin did not have Maruti800 so the only option left is swift car & hence Rajiv have Maruti800 car

Q 1. What is Reena's surname?

(a) Jain (b) Sharma (c) Soni (d) Mittal.

Ans = (c), Soni.

Q. 2. Which among the following is the correct couple?

(a) Nitin - Meena (b) Rajiv - Reena

(c) Abhay - Puram (d) Punish - Reena.

Ans = (b), Rajiv - Reena.

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Q3. Which car did the Mittal's use?

(a) Nano (b) Santro

(c) Maruti 800 (d) Swift.

Ans = (d), Swift.

Q4. Mr & and Mrs. Jain to which place?

(a) Mumbai (b) Pune

(c) Delhi (d) Goa

Ans = (a), Mumbai.

Q.5 Which couple had been to Goa?

(a) Punish - Meena (b) Nitin - Puram

(c) Rajiv - Reena (d) Abhay - Kavya

Ans = (d), Abhay - Kavya

Date __/__/____

Saathi

Q.8 There are 6 different players who play 6 different sports - Cricket, Football, Hockey, Tennis, Badminton, Athletics. They like like different colours - Red, Yellow, Blue, Pink, white, black not necessarily in the same order. They stay in 6 different cities - Ahmedabad, Banglore, Kolkata, Delhi, Pune.

(1) The football player likes Red colour, but does not belong to either Kolkata or Delhi.

(2) The one who likes yellow colour and the Athelete do not stay in Indore and Pune respectively.

(3) The Hockey player does not like either yellow or Blue colour.

(4) The one who likes Pink stays in Delhi.

(5) Hockey player, Tennis player and Cricket player stay in Kolkata, Indore and Bangalore respectively.

(6) One who stays in Pune likes Black.

Saathi

Date ___ / ___ / _____

Sports	Colour	Place
Cricket	Yellow	Bangalore
Football	Red	Ahmedabad. Kolkata✗ Delhi✗
Hockey	White yellow✗ Blue✗	Kolkata
Tennis	Blue yellow✗	Indore
Badminton	Black	Pune
Atheletics	Pink Black✗	Delhi Pune✗

① Football = Red✓
= Kolkata✗, Delhi✗

Yellow = Indore✗

Hockey = Yellow✗, Blue✗, Kolkata✓

Pink = Delhi✓, Bla

Date ___/___/_____

Saathi

Pune = Black ✓

As Tennis player stays in Indore so he does not like yellow.

Atheletic does not stay in Pune so does not like Black.

Football player does not stay in Kolkata & Delhi. So it has Pune & Ahmedabad as options and one who stays in Pune likes black but football player likes Red. So the only option is Ahmedabad.

Atheletic does not stay in Pune so stays in Delhi and so likes Pink.

Therefore, Badminton player stays in Pune & likes Black.

Hockey player doesn't like yellow and blue so the only option is white.

Tennis player does not like yellow so likes Blue.

Cricket player has the only option left is yellow.

Saath

Date ___ / ___ / _____

Q1. Which colour does Badminton player likes?

(a) Pink (b) Black

(c) Red (d) Yellow.

Ans = (b), Black.

Q2. One who like blue stays in which city?

(a) Indore (b) Delhi

(c) Pune (d) Ahmedabad

Ans = (a), Indore

Q3. One who stays in Kolkata plays which sport?

(a) Cricket (b) Hockey

(c) Badminton (d) Tennis

Ans = (b), Hockey.

Date ___ / ___ / ___

Saath

Q4. Hockey player likes which colour?

(a) Pink (b) Black

(c) Yellow (d) White

Ans = (d), White.

Q5. Blue colour is liked by which player?

(a) Hockey (b) Cricket

(c) Tennis (d) Atheletics

Ans = (c), Tennis.

Date ___/___/_____

Q.C. Eight students A, B, C, D, E, F, G, H have eight different items. Pen, Book, mobile, laptop, pendrive, tiffin, eraser, and scale. They went to three different classes namely ICD, DFC, ITM. Atleast two persons and atmost three persons went to each class.

Only D and G went to ITM and one of them has a tiffin. C has mobile and went to ICD. The one, who went to DFC has a eraser, but is not B. B and the one, who has a scale, went to DFC. Neither A nor F has a eraser, but one of them went to DFC. A and E went to same class. E has pendrive. The person, who has pen, did not go to either DFC or ITM. The one, who went ITM does not have a book. One among D and B has a laptop.

	ICD		DFC		ITM	
	Student	Item	Student	Item	Student	Item
1	C	Mobile	H	Eraser	D	~~Tiffin~~ ~~Book~~ laptop
2	A	Pen	B	Book	G	Tiffin
3	E	Pendrive	F	Scale		

D - ITM ✓ Tiffin - D/G

G - ITM ✓ Eraser - ~~B~~ ✗

~~I~~ ~~DFC~~ DFC - A/F

As A & E went to same class and the vacant space is in ICD so A & E is in ICD and F is DFC and F has scale.

Pen - ITM ✗, DFC ✗

∴ Pen - ICD the vacant space is at A

A = Pen.

ITM does not have book so DFC has book and vacant space is at B. B = Book

B or D has laptop. ~~B has~~ ∴ D = laptop so G = tiffin. ∴ H = Eraser.

Q1. Who went to DFC?

(a) A, B, D (b) H, B, F

(c) A, G, F (d) D, G.

Ans = (b), H, B, F.

Q2. Who b has a book?

(a) B (b) A

(c) D (d) H

Ans = (b), A.

Q3. Who has a Eraser?

(a) C (b) B

(c) F (d) H

Ans = (d), H

Q4. who went to ITM?

(a) D, G (b) A, C, F

(c) H, B, F (d) A, B

Ans = (a), D, G

Q5. Who has a tiffin?

(a) A (b) F

(c) G (d) H

Ans = (c), G.

Q.D. An institute is organising exams of different subjects Geography, History, Science, Maths, English, Arts and Economics from 2 July to 9 July.

(1) Cource should end with history

(2) 23rd July, being sunday, should have no Exam.

(3) Arts should be on previous day of Economics.

(4) Science should be immediately after holiday.

(5) There should be a gap of exactly one day between English and Economics.

(6) There should be a gap of exactly two days between Geography and English, and Geography is before English.

Date	Day	Subject
2	Saturday	Geography
3	Sunday	(No exam)
4	Monday	Science
5	Tuesday	English
6	Wednesday	Arts
7	Thrusday	Economics
8	Friday	Maths
9	Saturday	History.

As 3 is Sunday so the other days are easily known.

Arts should come on previous day of Economics [Arts / Eco]

Science on Monday means immediately after holiday.

English
(1 day gap)
Economics

Geography
1 days
2
English
1 day
Economics

∴ Maths = Friday.

Q 1. Which subject precedes Maths?

(a) Geography (b) Science

(c) Economics (d) Arts.

Ans = (c), Economics.

Q 2. The exam will start with which subject?

(a) Geography (b) Arts

(c) Maths (d) English

Ans = (a), Geography.

Q 3. Which subject exam will be on Friday?

(a) Geography (b) Maths

(c) Arts (d) English.

Ans = (b), Maths.

Q.4. Which subject follows science?

(a) Arts (b) Maths

(c) History (d) English

Ans = (d), English.

Q5. How many days gap is there between Maths and History exam?

(a) 2 days (b) No gap

(c) 1 day (d) 4 days

Ans = (b), No gap.

Q.E. Five students Jay, Dev, Nirav, Rahul, Zen likes five different subjects Zoology, Physics, Botany, Geology and History. And study in four different universities Delhi, Indore, Mumbai and Pune not necessarily in the same order.

(1) Rahul likes Zoology and study in Mumbai University.

(2) Nirav is neither in Pune nor in Delhi university and he likes neither geology nor history.

(3) Zen likes physics but neither Mumbai university nor in Pune university.

(4) Jay likes history in Delhi university.

(5) Two students are from Indore university.

Student	Subject	University
Jay	History	Delhi
Dev	Geology	Pune
Nirav	Botany history✗ geography✗	Indore pune✗ Delhi✗
Rahul	Zoology	Mumbai
Zen	Physics	Indore Pune✗

Nirav - Pune✗ Geology✗
- Delhi. History✗

Zen - Mumbai✗
Pune✓

Nirav is not in Pune or Delhi or Mumbai so only option is Indore.

Zen is not in Pune or Mumbai. So the option left is Indore. So Dev is in pune university.

Nirav does not like geology nor history. So the subject left is Botany.
So, Dev likes ~~Geo~~ Geology.

Date __/__/____

Q1. who likes geology?

(a) Nirav (b) Dev

(c) Rahul (d) Jay

Ans = (b), Dev.

Q2. Which university is Zen from?

(a) Indore (b) Mumbai

(c) Delhi (d) Pune.

Ans = (a), Indore.

Q.3. who is from Pune university?

(a) Nirav (b) Jay

(c) Dev (d) Rahul

Ans = (c), Dev.

94. Which of the following combination is correct?

(a) Jay = History
(b) Nirav = History
(c) Zen = Zoology
(d) Rahul = Botany

Ans = (a), Jay = History.

95. Who is from Mumbai university?

(a) Zen
(b) Nirav
(c) Jay
(d) Rahul

Ans = (d), Rahul

Q F. Six families Roy, Khan, Joshi, Verma, Pande and Mishra plans to go to six different cities Mumbai, Pune, Delhi, Nashik, Bhopal and Nagpur. They wish to go in 6 different months - Jan, Feb, March, April, May and June. Two of them want to travel by bus and two by rail and others by car and flight.

(1) Mr. Pande goes to Mumbai but not by air or bus.

~~(2) Mr. Sharma~~

(2) Mr. Roy prefers bus journey but doesn't travel in Feb or May.

(3) Neither Mishra nor Khan family go to Bhopal or Delhi.

(4) Nashik was visited in April

(5) Families going to Pune and Bhopal go by bus and car respectively.

(6) Mr. Joshi goes to ~~Nainital~~ Nagpur in March by air and Mishra does not travel in April.

Family	City	Month	Travel
Roy	Delhi	Jan / June ~~May~~ ~~Feb~~	Bus
Khan	Nashik ~~Bhopal~~ ~~Delhi~~	April	Rail
Joshi	Nagpur	March	air
Verma	Bhopal	Jan / Feb / May / June	Car
Pande	Mumbai	Jan / Feb / May / June	Rail ~~air~~ ~~Bus~~
Mishra	Pune ~~Nashik~~ ~~Bhopal~~ ~~delhi~~	Jan / Feb / May / June ~~april~~	Bus

April = Nashik
Pune = Bus
Bhopal = Car

* As Mishra is not travelling in april so, he is not going to Nashik. so only city left is pune ~~and pune is reached by Bus~~.

* ~~Roy~~ Khan can't travel to Bhopal, Delhi. ~~& Nashik~~ so he travels to Nashik in ~~April~~.

* Roy can travel to Bhopal or Delhi but to Bhopal he has to travel by car but he prefers bus, so he is travelling to Delhi

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Date __/__/____

Verma has only one city option left that is Bhopal and by Car.

Travel mode options left is rail only and that to for Khan & and ✓ Pande.

No further information is given regarding months.

Q1. Which of the following visit Bhopal?

(a) Pande (b) Verma

(c) Joshi (d) Khan

∴ Ans = (b), Verma.

Q2. Mr Joshi visited to?

(a) Nagpur (b) Mumbai

(c) Pune (d) Delhi

Ans = (a), Nagpur

Q3. Mr. Khan travelled by ?

(a) Car (b) Bus

(c) Rail (d) Flight (air)

Ans = (c), Rail

Q4. Which of the following visit Delhi ?

(a) Khan (b) Verma

(c) Mishra (d) Roy

Ans = (d), Roy

Q5. Mr. Mishra travelled by ?

(a) Car (b) Bus

(c) Rail (d) Air

Ans = (b), Bus

Q.6 Six friends A, B, C, D, E, F works in different companies namely, TCS, Reliance, Wipro, HCL, Idea, LIC. Each one read different newspaper i.e, Economic Times, Times of India, The Hindu, The Hindustan Times, Indian Express and The Pioneer not necessarily in the same order.

(1) The one reading Pioneer works in HCL and one reading Times of India works in TCS.
(2) E does not works in Wipro or Idea.
(3) A works in Reliance, reads the Hindu.
(4) F does not work in ~~LIC~~ Idea and the one who works in Wipro does not read the Hindustan Times.
(5) B works in LIC.
(6) Neither F nor D works in HCL.
(7) The one who works in Idea reads neither the Hindustan Times nor Indian Express.
(8) C works in TCS.

	Companies	Newspaper
A	Reliance	Hindu
B	LIC	Hindustan Times
C	TCS	Times of India
D	Idea ~~HCL~~	Economic Times ~~Indian Express~~ ~~Hindustan Times~~
E	HCL ~~Wipro~~ ~~Idea~~	Pioner
F	Wipro ~~HCL~~ ~~Idea~~	Indian Express. ~~Hindustan Times~~

Pioneer - HCL
Times of India - TCS
Wipro — ~~Hindustan Times~~
F & D does not work in HCL so only one left is E. And so he reads Pioneer.
Idea — ~~Hindustan Times~~
\ ~~Indian Express~~
F does not work in Idea so D Works in Idea & F in Wipro.
D & F does not read Hindustan Times, so only A left
D has does not read Indian Express as well so he reads Economics Times & F reads Indian Express.

Q1. Who works in Wipro?

(a) C (b) D

(c) F (d) A

Ans = (c), F

Q2. Who reads Economic Times?

(a) D (b) A

(c) B (d) F

Ans = (a), D

Q3. C reads which newspaper?

(a) Pioneer (b) Times of India

(c) Economic Times (d) Hindu

Ans = (b), Times of India

94. The one who works in Idea reads which newspaper?

(a) Pioneer
(b) Hindustan Times
(c) Hindu
(d) Economic Times

Ans - (d), Economic Times.

95. The one who reads Hindustan Times works in which company?

(a) HCL
(b) LIC
(c) Idea
(d) Reliance.

Ans = (b), LIC

Q.11. There are 7 persons A-G having seven different car name Audi, Nano, Honda city, Benz, Alto, Swift and Wagonr having different on road price 2LK, 4LK, 5LK, 3LK, 10LK, 12LK and 13LK not necessarily in the same order. Person having Honda city car price is of even number. Difference between price of car having by person D & A is less than 3LK. F is having Benz car. Addition of price of Wagonr car and Benz car is perfect Square. Person C having swift car have odd ~~num~~ number of price. Addition of price of ~~wagonar~~ car swift car and Alto is perfect cube. Either A or G having Audi car and price is of prime number. Person having wagonr car is in between Nano and swift car. Multiplication of price of wagonr and swift is double the price of Honda city car and Honda city is placed ~~above~~ audi ~~car~~. below of Alto car.

Date ___/___/_____

Person	Car	Price
A	Nano	2LK
B	Wagonr	4LK
C	Swift	5LK
D	Alto	3LK
E	Honda	10LK
F	Benz	12LK ~~12/4~~
G	Audi	13LK

Honda = even number

~~A-B~~ A-B / D-A → < 3LK

Wagonr + Benz = perfect square

so possibility is 12+4 = 16

Benz = 12/4

Wagonr = 12/4

Swift = odd number.

Swift + Alto = perfect cube.

so possibility is : 5 + 3 = 8

Swift = 5/3

Alto : 5/3

Audi = A/G = prime number.

Wagonr is between Nano and swift so this condition is fulfilled by placing Nano at A. so Audi will be ~~at~~ of G.

Wagonr × Swift = 2 × Honda

So assuming 5 × 4 = 20

= 2 × 10

∴ Wagonr = 4 LK

Swift = 5 LK

Honda = 10 LK

Alto = 3 LK

Benz = 12 LK

Honda is placed below Alto.

price of audi is prime number and options left are 13 LK, 2 LK, 3 K

But A − B should be less than 8 K

so Audi ~~=~~ = 13 LK

∴ Alto = 3 LK

Nano = 2 LK

Q1. Who is having Nano car?

(a) B (b) A

(c) D (e) F

∴ Ans = (b), A

Q2. What is the price of Audi car?

(a) 12 LK (b) 8 LK

(c) 4 LK (d) 10 LK

Ans = (a), 12 LK.

Q3. Swift car's price is?

(a) 4KL (b) 13 LK

(c) 12 LK (d) 5 LK

Ans = (d), 5 LK

Q4. Alto car is owned by?

(a) G (b) A

(c) D (d) B

Ans = (c), D

Q5. Which of the following is correct?

(a) 12 LK – Benz (b) 10 LK – Audi

(c) 5 LK – Nano (d) 3 LK – Honda City

Ans = (a), 12 LK – Benz

Saathi

Date ___/___/_____

Q I. Eight person A, B, C, D, E, F, G and H live on eight-store building. Lowermost floor is numbered 1 and topmost is 8. Their ages are 20, 24, 26, 27, 29, 31, 34 and 38 not necessarily in the same order. F lives three floor above the one who is 27 years old. C lives just above F. The difference of age between A and C is same as difference of age between D & H. The one who is 34 years old is living on top floor. Only two persons are elder to F. B is 26 years old. H is elder to F. The number of floors above D is same as below E. C lives on an odd numbered floor. B just lives above the one who is 24 years old. D is 5 years elder to G. One person lives between G and the one who is 24 years old. Difference of age between A and B is atleast 3 years. The number of floors between G and C is same as A and E.

Floor	Person	Age
8	D	34
7	G	29
6	B	26
5	C	24
4	F	31
3	A	20
2	H	38
1	E	27

B is = 26

Only two persons are elder to F so F = 31.

H is elder to F mean H = 34/38.

D is 5 years elder than G. If H = 38 then G = 33 and 33 is not given.

∴ H = 34 and G = 29.

So there are two combinations of 5 years difference 24-29 and 29-34.

G cannot be 24 ∴ G = 29 and D = 34

H = 38

Now A - C = D - H.

= 38 - 34

= 4

A = 20/24 C = 20/24

∴ E = 27

C lives on odd no. floor so C can be on 7th or 5th floor.

If C lives on 7th floor the condition of number of floors above D and below E is not valid. so C lives on 5th floor.

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C lives on 5th floor and E lives on 1st floor. and F on 4th and D on 8th floor.

A - B is atleast 3 years

∴ A = 20

C = 24

G lives on 7th or 3rd floor.

The number of floors between G and C is same as A and E

G lives on 7th floor and A lives on 3rd floor.

B lives just above the one who is 24 years old.

B lives on 6th floor and H lives on 2nd floor.

Q1. Who among the following is 34 years old?

(a) A (b) D

(c) B (d) G

Ans = (b), D

Q2. Who lives on floor number 7th?

(a) A (b) D

(c) B (d) G

Ans = (d), G

Q3. What is the age of G?

(a) 29 (b) 24

(c) 31 (d) 38

Ans = (a), 29

Q4. Which of the following combination is correct?

(a) E = 2nd floor (b) B = 26

(c) A = 31 (d) C = 3rd floor.

Ans = (b), B = 26

Q5. Who is the eldest?

(a) B (b) E

(c) H (d) G

Ans = (c), H

Q 1. Six persons A, B, C, D, E and F experts in six different fields Drama, story-telling, Sports Dance, Singing, Mimicry not in the same order. And won different prizes Kalinga award, Gandhi Peace prize, Vyas Samman prize, Kabir Samman prize, Iqbal Samman prize and Saraswati Samman prize for the year 2005. C and F have not to won Gandhi Peace prize and Iqbal Samman. The winner of Kabir Samman is expert in the field of singing but he is certainly not E and B. B & D and A have won Kalinga award and Kabir Samman though not respectively. The experts of the field story-telling and E have won Gandhi Peace Prize and Iqbal Samman though not respectively.
A is expert in field of Drama and winner of Iqbal Samman is expert in the field of mimicry.

Saathi

Person	Field	Prize
A	~~Story - Telling~~ Drama	~~Gandhi Peace Prize~~ Kalinga Award
B	Story - telling	Gandhi Peace Prize
C	Sports / Dance	Vyas Prize / Saraswati Samman
D	Singing	Kabir Samman
E	Mimicry	Iqbal Samman
F	Sports / Dance	Vyas Prize / Saraswati Samman

Gandhi Peace = C^{x}, F^{x} = Story telling

Kalinga = A$^{\checkmark}$ =

Vyas

Kabir Samman = Singing = B^{x}, E^{x} = D$^{\checkmark}$

Iqbal Samman = C^{x}, F$^{\checkmark}$ = E$^{\checkmark}$ =

Saraswati Samman

If E won Iqbal Samman then the one who is expert in Story telling wins Gandhi peace prize.

A = Drama = Kalinga.

E = Iqbal Samman = mimicry.

F = Iqbal^{x}, Kabir^{x}, Kalinga^{x}, Gandhi^{x}
= Vyas / Saraswati.

C = Gandhi^{x}, , Vyas / Saraswati.

Gandhi Peace Prize has only one option left i.e B.

Sports = C / F , Dance = C / F

Vyas = C / F , Saraswati = C / F

Date ___/___/___

Q1. Who is the winner of Kabir Samman?

(a) A (b) D

(c) E (d) F

Ans = (b), D.

Q2. Who is the expert in story-telling field?

(a) B. (b) D

(c) E (d) A

Ans = (a), B

Q3. E is expert in which field?

(a) Dance (b) Sports

(c) Mimicry (d) Singing

Ans = (c), Mimicry

Q4. D has won which award?

(a) Kabir Samman (b) Iqbal Samman

(c) Gandhi Peace Prize (d) None

Ans = (a), Kabir Samman.

Q5. Who is the winner of Gandhi Peace Prize?

(a) E (b) C

(c) D (d) B

∴ Ans = (d), B

Saath

Q.11.K Four students A, B, C, D lives on the same side of a street in four houses, each of different colour Red, Blue, white, Green. Each student has a different favourite car.

(+) H

(1) A lives in red house.

(2) B ~~drinks~~ likes swift car.

(3) C lives in the first house on the left.

(4) In the second house from the right, he likes Nano car.

(5) C lives adjacent to the blue house.

(6) D likes Alto car.

(7) Swift is like by the one who lives in blue house.

(8) The white house is to the right of the red house.

Student →	C	B	A	D
car →	i4 Santro	swift	Nano	Alto
house colour →	Green	Blue	Red	White

A → red

B → swift

D → Alto

swift is liked by the one who lives in blue house. Means B student lives in blue house and likes swift car.

White house is right of Red house the only possibility is Red should be right of Blue house.

A likes in Red house means A likes Nano car.

D likes Alto so last spot to the right is empty. so, D lives in white house.

C lives in green house and likes Santro car.

Q1. Santro car is liked by whom?

(a) A (b) B

(c) C (d) D

Ans = (c), C

Q2. Who sits to the left of B?

(a) A (b) B

(c) C (d) D

Ans = (a), A.

Q3. A likes which car?

(a) Santro (b) Swift

(c) Alto (d) Nano

Ans = (d), Nano.

Q4. D lives in which house?

(a) Red (b) White

(c) Blue (d) Green

~~Ans = (d), Green.~~

Ans = (b), White.

Q5. The one who lives in blue house likes which car?

(a) Sonka (b) Alto

(c) Nano (d) Swift

Ans = (d), Swift.

Q&S.L Eight Mens A, B, C, D, E, F, G, H are setting in two rows facing each other i.e, four persons in each row not necessarily in the same order. They have different surnames Sharma, Joshi, Bakshi, Mishra, Shaha, Roy, Verma, Vardhan.

(1) Sharma, Joshi, Bakshi, Mishra are facing south and the rest are facing north.

(2) Mr. Bakshi is setting opposite to the one who is the immediate right of G, Mr Roy.

(3) Neither C nor E is Mr. Mishra.

(4) Either H or A is Mr. Bakshi

(5) Mr. Mishra and Mr Vardhan are setting opposite to each other at an end.

(6) Neither G nor E sits at an end.

(7) Mr. Roy and Mr. Shaha are adjacent to each other

(8) B, Mr Verma and is setting to the immediate left of F, Mr. Vardhan.

(9) A is Mr Sharma and he is sitting opp Mr. Shaha.

Surname → Sharma Joshi Bakshi Mishra

Men → A E H D ↓ South

G E^x
G^x E^x
G^x E^x C^x
G E^x

Men → C G B F ↑ North

Surname → Shaha Roy Verma Vardhan.

Mishra & Vardhan are sitting opposite to each other at an end.

G and E does not sit at any end.

Mr. Bakshi is sitting opposite to the one who is immediate right of G, Mr Roy. So G will not be at left corner of north facing ones then only this condition will become true.

Bakshi is either H or A. But A is Sharma.
∴ Bakshi = H.

Only seat in north facing is left and the only surname left is Shaha.

Sharma & Shaha sitting opp to each other.

Joshi is the only surname left in south facing E cant be at any corner. ∴ Joshi = E

Date __/__/____

Mishra is not C ∴ Mishra = D

∴ Shaha = C.

Q1. Who is Mr. Joshi?

(a) A (b) E

(c) D (d) B

Ans = (b), E

Q2. Who seats to the right of Mr. Bakshi?

(a) Shaha (b) Mishra

(c) Joshi (d) Verma

Ans = (c), Joshi

Q3. Who is to the left of G?

(a) Shaka (b) Mishra

(c) Joshi (d) Verma

Ans = (a), Shaka

Q4. B is seated opposite of?

(a) G (b) F

(c) D (d) H

Ans = (d), H

Q5. Which pair is at the corner?

(a) D, G (b) D, F

(c) A, H (d) C, G

Ans = (d) (b), D, F

Date ___/___/_____

Q.M. Eight students Aman, Raj, Jay, Abhay, Rohit, Rahul, Mohit and Vikram of eight different colleges FMS, JBIMS, ITM, IBS, IIM-A, IIM-B, KJS, WES not necessarily in the same order.

(1) Aman sits opposite to the one from FMS, who is second to the left Rahul.

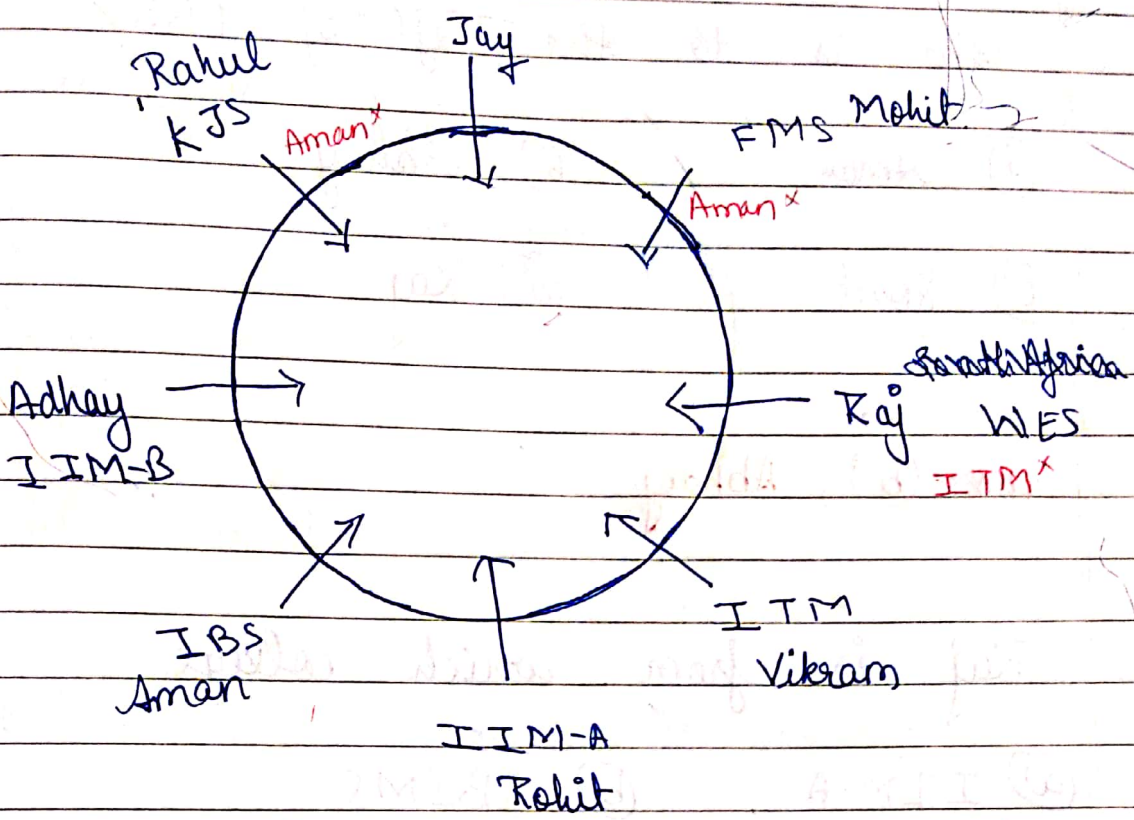
(2) student of IIM-A is two places away to the left of Raj. Raj is not from ITM.

(3) Aman is not from IIM-A. C is from Jay is from JBIMS sits opposite to the one from IIM-A and is not adjacent to Aman.

(4) Neither Mohit nor Vikram is from IIM-A.

(5) Abhay is from IIM-B, is adjacent to both from KJS and IBS.

(6) Mohit is not from ITM and the one from KJS is opposite to the one from ITM.



Jay = JBIMS is opposite to the one from IIM-A.

IIM-A = Aman x, Mohit x, Vikram x, Jay x, Raj x

option left is Rohit

∴ IIM-A = Rohit

Raj = ITM x

Abhay = IIM-B adjacent to one from KJS and IBS

KJS opposite to ITM

ITM = Mohit x, Raj x ∴ ITM = Vikram.

~~Raj = South Africa~~

Aman is opposite to one from FMS. Only position for FMS is opposite of IBS.

∴ Aman ≠ IBS.

FMS is second to left of Rahul ∴ KJS = Rahul.

From all the student option ~~FS~~ FMS = Mohit.

∴ Raj = WES

Date __/__/____

Q1. Who is to the left of IBS?

(a) Aman (b) Abhay

(c) Rohit (d) Raj

Ans = (b), Abhay

Q2. Raj is from which college

(a) IIM-A (b) JBIMS

(c) ITM (d) WES

Ans = (d), WES

Q3. Who is opposite of Vikram?

(a) Rahul (b) Jay

(c) Mohit (d) Abhay

Ans = (a), Rahul

Q4. Who is from FMS?

(a) Raj (b) Jay

(c) Vikram (d) Mohit

Ans = (d), Mohit.

Q5. Which of the following is correct?

(a) Rahul = ITM (b) Abhay = IIM-A

(c) Rohit = IIM-A (c) Aman = FMS

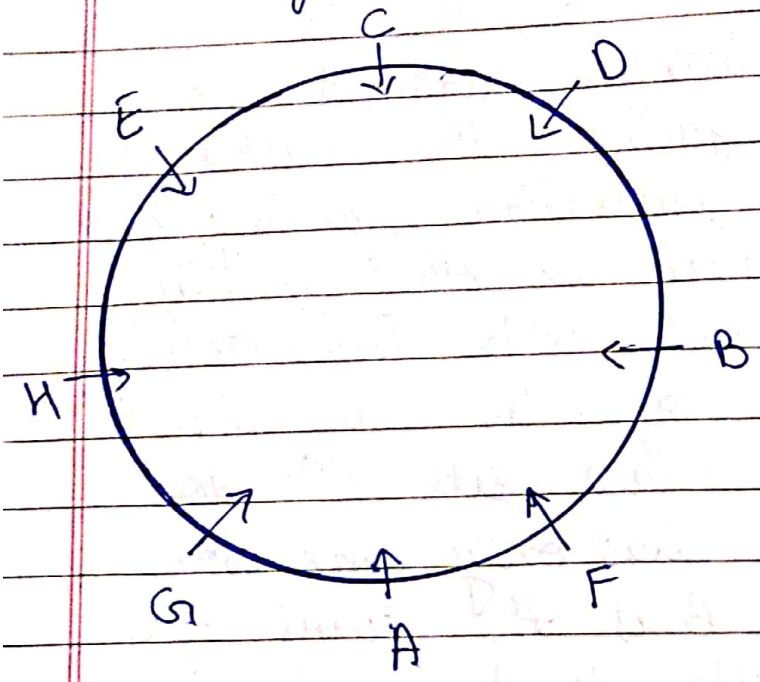
Ans = (c), Rohit = ITM-A.

Saathi

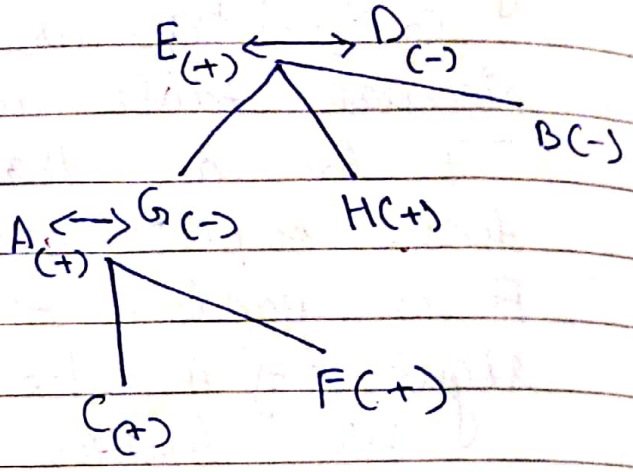
Q.N Eight family members A, B, C, D, E, F G and H are sitting around a circular table and facing the centre. It is a three-gendration family and two couples are there in the family. F is grandson of D and sits immediately right of A who is son-in-law of D. H's brother-in-law sits 2nd to the right of H. E has only one son and two daughters. B is the aunt of C. F's aunt sits opposite to H. G has two sons. E is 3rd to the right of B. Two pairs of females are sitting opposite to each other. H is an unmarried male. E is father of B. B is not married to A. E is grandfather of C. D is not neighbour of H.

Date ___/___/___

Sitting Arrangement



Family Tree



(+) = Male
(-) = Female

A is son-in-law of D. F is grandson of D and E is grandfather of C. So E is husband of D.

G has two sons must be F and C.
There are two couples in family
(1) E and D
(2) A and G.

B is aunt of C so, B is sister of G.

E has only 1 so i.e H.

F is immediate right of A.

Saath

H's brother-in-law sits 2nd to the right of H. H's brother-in-law is A. So A is 2nd to the right of H.

F's aunt sits opposite to H. F's aunt is B. So B sits opposite to H.

E is 3rd to right of B. Two females are sitting opposite to each other. D and G two females opposite each other.

D is not neighbour of H so G is exactly between H and A.

Only one empty position is left for C.

Date ___/___/___

Q1. How many females are in the family?

(a) 5 (b) 3

(c) 4 (d) 2

Ans = (b), 3

Q2. How many males are in the family?

(a) 4 (b) 3

(c) 5 (d) None

Ans = (c), 5

Q3 Who is the mother of H?

(a) A (b) D

(c) G (d) E

Ans = (b), D.

Saat

Q4. Who is second to the right of A?

(a) E (b) D

(c) H (d) B

Ans = (d), B.

Q5. Which is the correct couple?

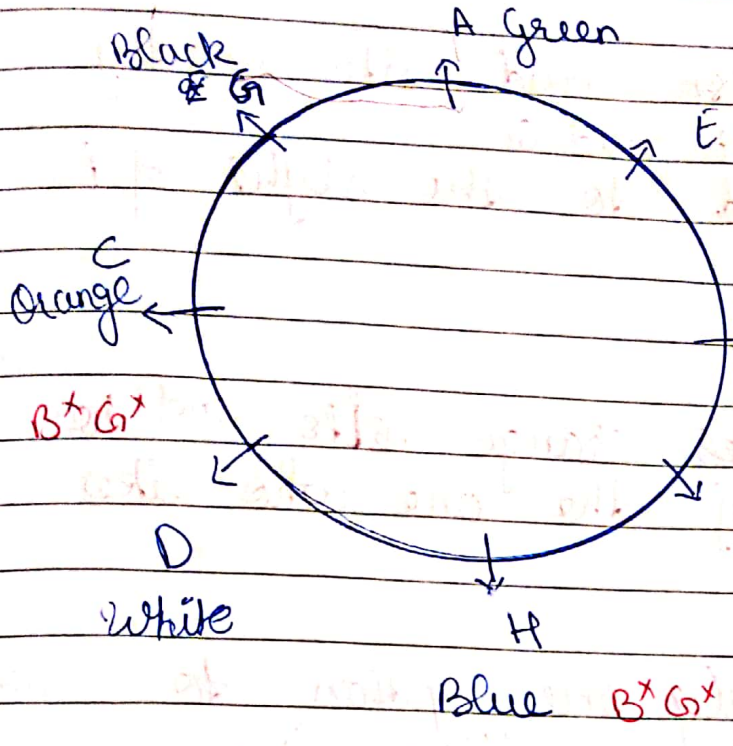
(a) A, G (b) C, H

(c) G, B (d) D, G

Ans = (a) A, G

Date ___ / ___ / ___

30. Eight people A, B, C, D, E, F, G, H are sitting around a circle facing outward. All of them like different colour Red, Blue, Green, Yellow, Orange, Pink, Black, white. D is sitting third to the right of F. The one who likes blue sits on the immediate left of D, who doesn't like Red. B sits fourth to the left of G. Neither B nor G is an immediate neighbour of D. E likes yellow and sits third to the left of one who likes blue. The one who likes Pink sits second to the right of the one who likes yellow. The one who likes black sits second to the right of D. A likes green and sits exactly between E and G. The one who likes orange sits second to the left of the one who likes green. H sits third to the right of E.



D is third to the right of F.

One who likes blue is sitting immediately left of D.

B & G are not immediate neighbours of D.

E = yellow sits third to the left of one who likes blue.

One who likes pink sits 2nd to the right of the one who likes yellow.

One who likes black sits 2nd to the right of D.

A likes green and sits exactly between E and G.
H sits third to the right of E.
H = Blue
∴ G = Black.

One who likes orange sits 2nd to the left of the one who likes green.

Orange has only one option to fulfill all the condition is C.
∴ Orange = C
So, Pink = B

The one who likes black sits 2nd to the right of D.
∴ Black = F
So, White = D

Q1. Who likes Black?

(a) C (b) H

(c) G (d) F

Ans = (d), F.

Q2. Who is immediate left of H?

(a) B (b) G

(c) D (d) E

Ans = (a), B

Q3. C likes which colour?

(a) Yellow (b) Orange

(c) Pink (d) White

Ans = (b), Orange.

Q4. Who is opposite of E?

(a) D (b) A

(c) G (d) B

Ans = (a), D

Q5. Which of the following is correct?

(a) G - Pink (b) A - Orange

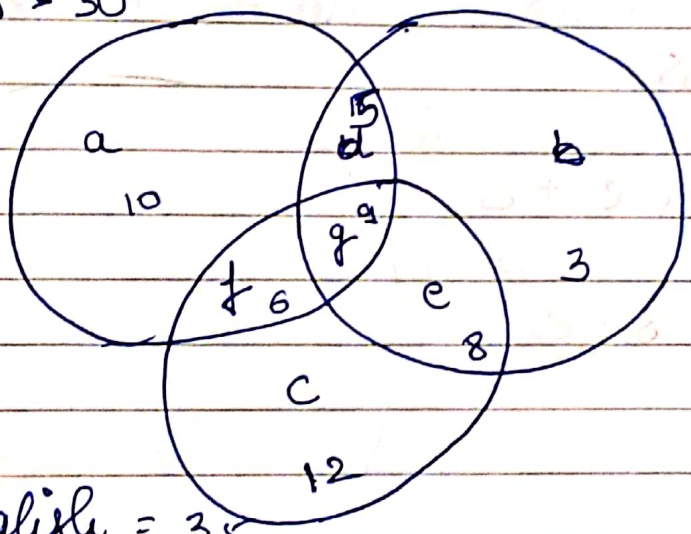
(c) F - Black (d) E - white

Ans (c), F - Black.

Q.P. In a college classroom of 80 students, 30 students like Physics, 35 students like English and 25 students like Maths. It is also known that 15 students like both Physics and English, 17 students like both English and Maths and 14 students like both Physics and Maths, 9 students like Physics, Maths and English.

Total = 80

Physics - 30



Maths = 25

English = 35

$g = g$ = likes all the three subjects.

$d + g = 14 \Rightarrow g + d = 14 \Rightarrow d = 5$.

$e + g = 17 \Rightarrow e + 9 = 17 \Rightarrow e = 8$

$f + g = 15 \Rightarrow f + 9 = 15 \Rightarrow f = 6$

physics = 30

$30 = a + d + g + f$

$30 = a + 5 + g + 6$

$30 = a + 20$

$a = 30 - 20$

$a = 10$

English = 35

$35 = f + g + e + c$

$35 = 6 + g + 8 + c$

$35 = c + 23$

$c = 35 - 23$

$c = 12$

Maths = 25

$25 = d + g + e + b$

$25 = 5 + g + 8 + b$

$25 = b + 22$

$b = 25 - 22$

$b = 3$

Total = a + b + c + d + e + f + g + n

80 = 10 + 3 + 12 + 5 + 8 + 6 + 9 + n

80 = 53 + n

n = 27

Q1. Number of students likes only Physics?

(a) 30 (b) 10

(c) 15 (d) 14

Ans = (b), 10.

Q2. Also what is the number of students who like both Maths and English but not Physics?

(a) 10 (b) 27

(c) 17 (d) 8

Ans = (d), 8.

Date ___/___/___

Q3. What is the number of students who don't like any of the three subjects?

(a) 9 (b) 80

(c) 27 (d) 10

Ans = (c), 27

Q4. What is the number of students who like all the three subjects?

(a) 9 (b) 27

(c) 80 (d) 14

Ans = (a), 9

Q5. How many students like both Maths and Physics but not English?

(a) 14 (b) 5

(c) 10 (d) 6

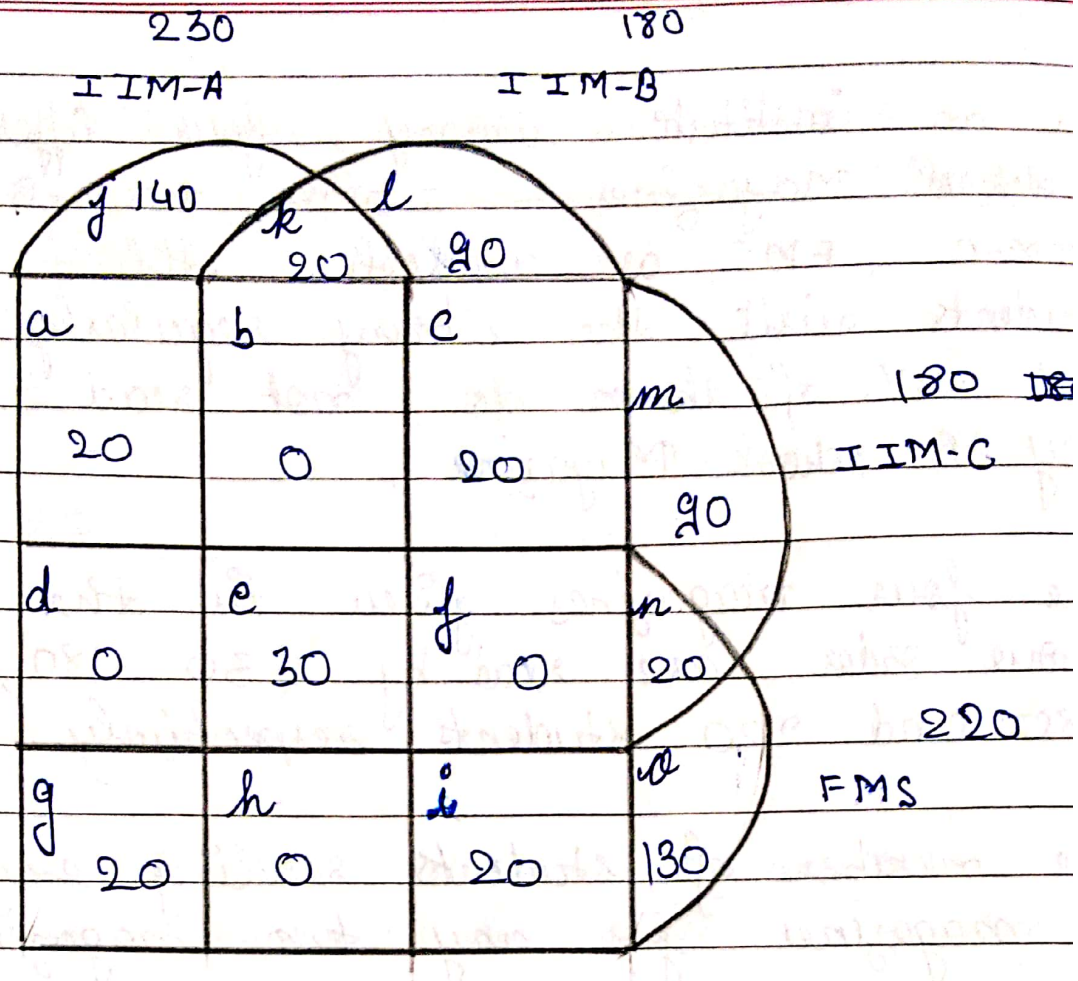
Ans = (b), 5

Q.8. In an institute library, four different B-school Magazines — IIM-A, IIM-B, IIM-C, FMS are available. All students visit the library regularly but 20% of them do not read any B-school Magazine.

The four magazines given in the above order are read by 230, 180, 180 and 220 students respectively.

The number of students reading exactly 2 magazines for any two magazine is 20.

There are 30 students who read all the four magazines but there is no one who reads exactly three out of the four magazine.



There are 30 students who read all the four magazines.

$\therefore e = 30$

Out of four magazines, students reading exactly two magazines is possible in 6 different combinations.

${}^4C_2 = 6$

IIM-A → IIM-B ; IIM-A - IIM-C ; IIM-A - FMS ; IIM-B - IIMC ; IIM-B - FMS ; IIM-C - FMS.

each of ~~these~~ these is 20

$\therefore 6 \times 20 = 120$.

$a = c = g = i = k = n = 20$.

No one reads all the three magazines

$d = b = f = h = 0$.

IIM-A = 230

$230 = j + k + a + b + d + e + g + h$

$230 = j + 20 + 20 + 0 + 0 + 30 + 20 + 0$

$230 = j + 90$

$j = 230 - 90$

$j = \underline{140}$.

IIM-B = 180

$180 = k + l + b + c + e + f + h + i$

$180 = 20 + l + 0 + 20 + 30 + 0 + 0 + 20$

$180 = l + 90$

$l = 180 - 90$

$l = \underline{90}$.

IIMC = 180

$180 = a + b + c + m + n + f + e + d$

$180 = 20 + 0 + 20 + m + 20 + 0 + 30 + 0$

$180 = m + 90$

$m = 180 - 90$

$m = 90$

— ∘

FMS = 220

$220 = d + e + f + n + o + i + h + g$

$220 = 0 + 30 + 0 + 20 + o + 20 + 0 + 20$

$220 = o + 90$

$o = 220 - 90$

~~$o = 130$~~

— ∘

$o = 130$

— ∘

Q1. What is the number of students who read only FMS magazine?

(a) 220 (b) 150

(c) 130 (d) 170

Ans = (c), 130.

Q2. What is the number of students who read all the three magazine?

(a) 110 (b) 810

(c) 50 (d) 30

Ans = (d), 30

Q3. What is the number of students who read exactly ~~a~~ IIM-B and FMS magazine?

(a) 20 (b) 40

(c) 130 (d) 150

Ans = (a), 20

~~Q3~~ Q4. How many students read only IIM-A magazine?

(a) 230 (b) 140

(c) 160 (d) 250

Ans = (b), 140

Q5. How many students read only IIM-C magazine?

(a) 110 (b) 180

(c) 90 (d) 70

Ans = b (c), 90

Q.R. Six students Jaya, Kavya, Mina, Poonam, Rupa, Seema are to be divided into three teams of two students each for different groups of finance, Marketing and HR.

Poonam does not want to be in the same team as Rupa.

Seema does not want to be in finance team.

If Jaya is selected for Marketing, then Mina must be selected for HR.

Kavya and Mina must be selected in the same team.

From the given conditions, teams can be (Kavya, Mina), (Poonam, Jaya), (Rupa, Seema) or (Kavya, Mina), (Poonam, Seema), (Rupa, Jaya).

If Jaya is in Marketing team, then Mina is in HR team.

Seema cannot be in Finance team.
Jaya cannot be in Marketing team.

So the possibilities of teams are as follows,

	Finance	Marketing	HR
1.	Rupa, Jaya	Poonam, Seema	Kavya, Mina
2	Rupa, Jaya	Kavya, Mina	Poonam, Seema
3	Kavya, Mina	Poonam, Seema	Rupa, Jaya
4	Poonam, Jaya	Rupa, Seema	Kavya, Mina
5.	Poonam, Jaya	Kavya, Mina	Rupa, Seema
6.	Kavya, Mina	Rupa, Seema	Ponam, Jaya

Q1. If Rupa is selected for HR team, then who must be the team mate of Poonam?

(a) Jaya
(b) Seema
(c) Mina
(d) Either (A) or (B)

Ans = (d), Either (A) or (B).

Q2. If Rupa is selected for Marketing, who must be her team mate?

(a) Jaya
(b) Seema
(c) Poonam
(d) Mina

Ans = (b), Seema

Q3. If seema wants to be in the Marketing, then in how many ways can the teams be selected?

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

Ans = (b), 4

Date __/__/____

Q4. If Rupa wants to be in finance, then in how many ways can the team selected?

(a) 5 (b) 4

(c) 3 (d) 2

Ans = (d), 2

Q5. Who is not selected in Marketing team?

(a) Mina (b) Rupa

(c) Seema (d) Jaya

Ans = (d), Jaya

Q.S. Six Teams Arun, Bina, Charlie, Dev, Emma, Firdous play a game. In the first round of the every team plays with every other team exactly once. If a team wins, it scores 40 points, if a team loses, it loses 10 points and a draw results in 20 points for each team. After the first round, the top two teams advance to the finals.

Results of the first round.

(1) Team charlie won nor lost a match.

(2) Team Bina and Emma lost exactly one match.

(3) Team Firdous lost exactly three matches.

(4) Team Dev won as well as lost exactly two matches.

(5) Team Arun lost exactly two matches.

(6) The match played between team Emma and team Firdous was draw.

Date ___/___/___

Charlie had drawn a match with every other team the five matches should reflect in the other's score sheets also.

The number of matches drawn by Arun and Bina should be atleast '1' each and Emma and Firdous should be atleast '2'.

The number of matches drawn is 6; There are 2 losses, so we must have 2 wins.

1 Win = 40 points, Loss = 10 points (deduct) draw = 20 points.

Team Arun,

2 wins = 2 × 40 = 80

Loss = 2 × 10 = 20

draw = 1 × 20 = 20

80 − 20 + 20 = 80 points

Team Bina,

Win = 3 × 40 = 120

Loss = 1 × 10 = 10

Draw = 1 × 20 = 20

120 − 10 + 20 = 130 points

Team Charlie,

Win = 0 x 40 = 0
Loss = 0 x 10 = 0
Draw = 5 x 20 = 100

0 - 0 + 100 = 100 points

Team Dev,

Win = 2 x 40 = 80
Loss = 2 x 10 = 20
Draw = 1 x 20 = 20

80 - 20 + 20 = 80 points

Team Emma,

Win = 2 x 40 = 80
Loss = 1 x 10 = 10
Draw = 2 x 20 = 40

80 - 10 + 40 = 110 points

Team Firdous,

Win = 0 x 40 = 0
Loss = 3 x 10 = 30
Draw = 2 x 20 = 40

0 + 40 - 30 = 10 points

Date ___/___/_____

8 by

Team	Win	Loss	Draw	Score
Arun	2	2	1	80
Bina	3	1	1	120
Charlie	-	-	5	100
Dev	2	2	1	80
Emma	2	1	2	110
Firdous	-	3	2	10

Q 1. Which ~~two~~ teams have highest score?

(a) Dev (b) Arun

(c) Emma (d) Bina

Ans = (d), Bina

Q 2. Which team have the lowest score?

(a) Emma (b) Firdous

(c) Dev (d) Bina

Ans - (b), Firdous

Q3. How ~~may~~ many teams have high score more than team Arun?

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

Ans = (a), 3.

Q4. How many teams have the same score?

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

Ans = (c), 2.

Q5. What is the total score of charlie team?

(a) 120
(b) 110
(c) 80
(d) 100

Ans = (d), 100.

Saath

Q1. The table shows the income and expenditure in lakhs of X & Y in five different years.

year	Income		Expenditure	
	X	Y	X	Y
1995	510	-	-	375
1996	550	500	465	-
1997	-	-	370	380
1998	580	590	490	-
1999	515	-	-	495

Note = profit = Income - Expenditure.

$$\text{Profit \%} = \frac{\text{Profit}}{\text{Expenditure}} \times 100$$

Q.A. If the percentage profit of A^X in year 1995 is 20%. then his expenditure is by how much percent more or less than that of A^X is year ~~20~~ 1998?

(a) 11% more (b) 18% less

(c) 8% less (d) 13% less.

Ans = (d), 13% less -

Expenditure of X in 1995 = $\frac{510}{1.2}$ = 425 lakh.

∴ Required percentage = $\frac{490 - 425}{490} \times 100$

= 13% less

Q.B. In year 1998, A^X expended 10 lakh more than Y. Find what is the profit percentage of Y in the same year?

(a) 23% (b) 25%

(c) 35% (d) 20%

Ans = (a), 23%

Date 15/1/

Saathi

Required profit percentage = $\frac{590-480}{480} \times 100 = 23\%$.

Q. What is the average income (in lakhs) of X and Y together in year 1997 if percentage profit earned by X was 16% and that of Y was 17%?

(a) 438.2 (b) 436.9

(c) 408.2 (d) 440.9

Ans = (b), 436.9.

Income of X in 1997 = $\frac{16 \times 370}{100} + 370$

= 429.2 lakh

Income of Y in 1997 = $\frac{17 \times 380}{100} + 380$

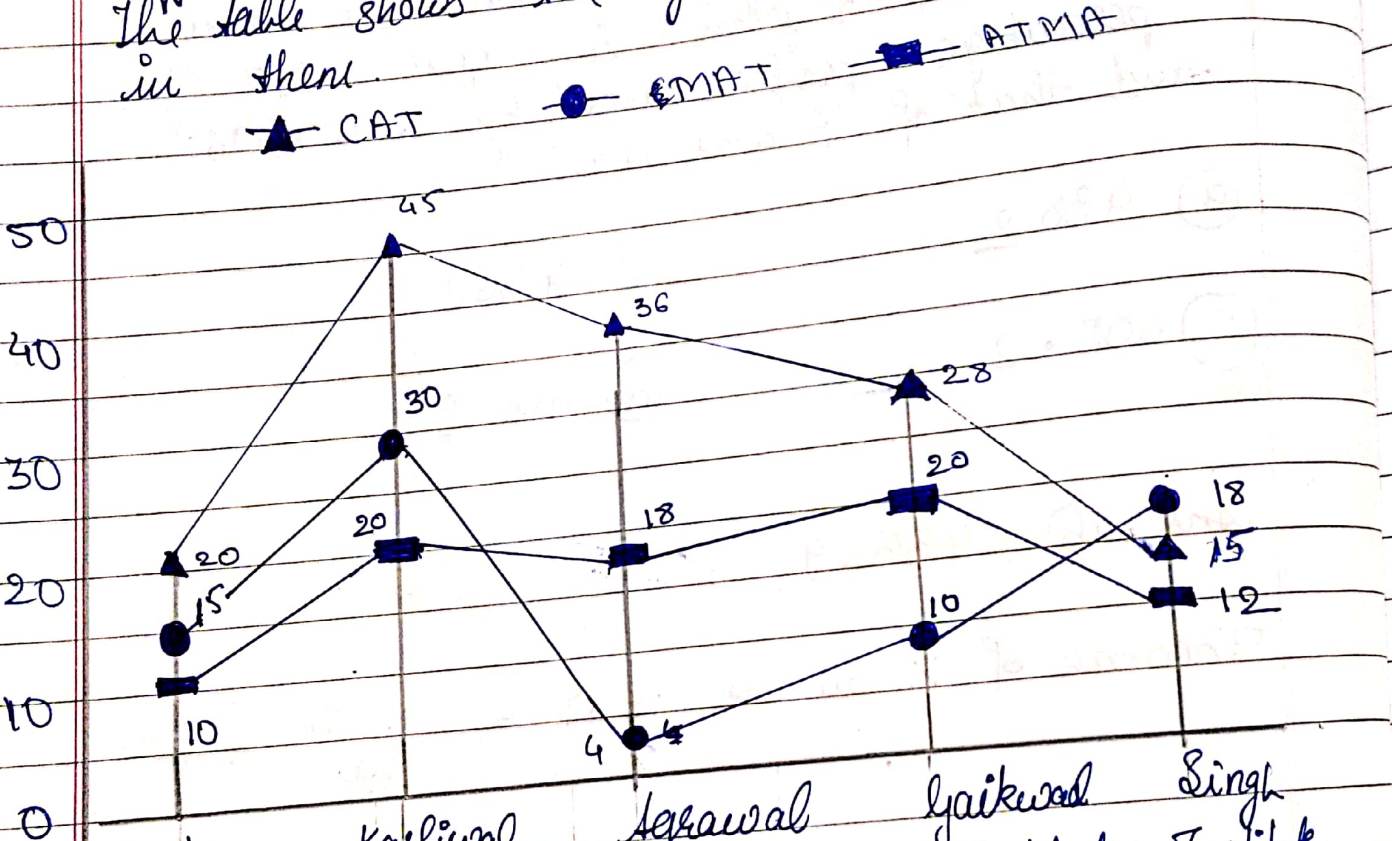
= 444.6 lakh

Total X and Y = 429.2 + 444.6 = 873.8 lakh

∴ Average = $\frac{873.8}{2}$ = 436.9 lakh

Date ___/___/___

Q.2. The line graph shows the number of students who qualified three different MBA enterance exams from five different coaching institute. The table shows the female students in them.



Exams	Percentage of females				
	Gupta Institute	Kaslival Institute	Agrawal Institute	Gaikwad Institute	Singh Institute
CAT	10	25	20	15	20
MAT	25	36	30	20	18
ATMA	16	32	28	20	24

Page No.

Date __/__/____

Saar

850

Q.A- Find the total number of males who were qualified for CAT exam from all the five institutes together (in thousands).

(a) 14.85 (b) 114.85

(c) 115.45 (d) 112.85

Ans = (b), 114.85 thousand.

Total Number of males =

$$= \frac{96}{100} \times 20 + \frac{75}{100} \times 45 + \frac{80}{100} \times 36 + \frac{85}{100} \times 28 + \frac{70}{100} \times 15 = 114.85 \text{ thousand.}$$

Q.B. The total number of females who qualified from Kashiwal institute for MAT is what percent more than the number of females from the Singh Institute who qualified MAT exam?

(a) $160\frac{2}{3}\%$ (b) 50%

(c) $233\frac{1}{3}\%$ (d) 550%

Ans = (c), $233\frac{1}{3}\%$.

Date ___/___/___

Saat

91 90

∴ Required percentage

$$= \frac{30\% \text{ of } 36 - 18 \times 18}{100}$$

$$= \frac{30 \times 36 - 18 \times 18}{18 \times 18} \times 100 = 233\frac{1}{3}\%$$

Q C. What is the ~~total~~ number of

Q C. What is the difference between total number of males from Agrawal institute and total number of males from Singh institute who qualified all the three exam?

(a) 8040 (b) 8600

(c) 8160 (d) 7660

Ans = (d), 7660

Number of male students from Agrawal institute =

$$\left(\frac{80}{100} \times 36 + \frac{70}{100} \times 4 + \frac{72}{100} \times 18\right)$$

= 42.04 thousand

Number of male students from single institute =

$$\left(\frac{70}{100} \times 15 + \frac{82}{100} \times 18 + \frac{76}{100} \times 12\right)$$

$$= 34.38 \text{ thousand.}$$

$\therefore$ Required difference $= 42.04 - 34.38$

$= 7.66$ thousand.

9D. Total number of female students from Kaslival etc institute and Gupta institute together who qualified for the MAT exam is what percent of total number of female student from Agrawal and Gaikwad institute for the same exam?

(a) 167 %.

(b) 330 %.

(c) 195 %.

(d) 145 %.

Ans = (b), 330%.

Total no. of female students from Kaslival & Gupta institute who qualified MAT

$$= \frac{36}{100} \times 30 + \frac{25}{100} \times 15 = 14.55 \text{ thousand.}$$

Date ___ / ___ / ___

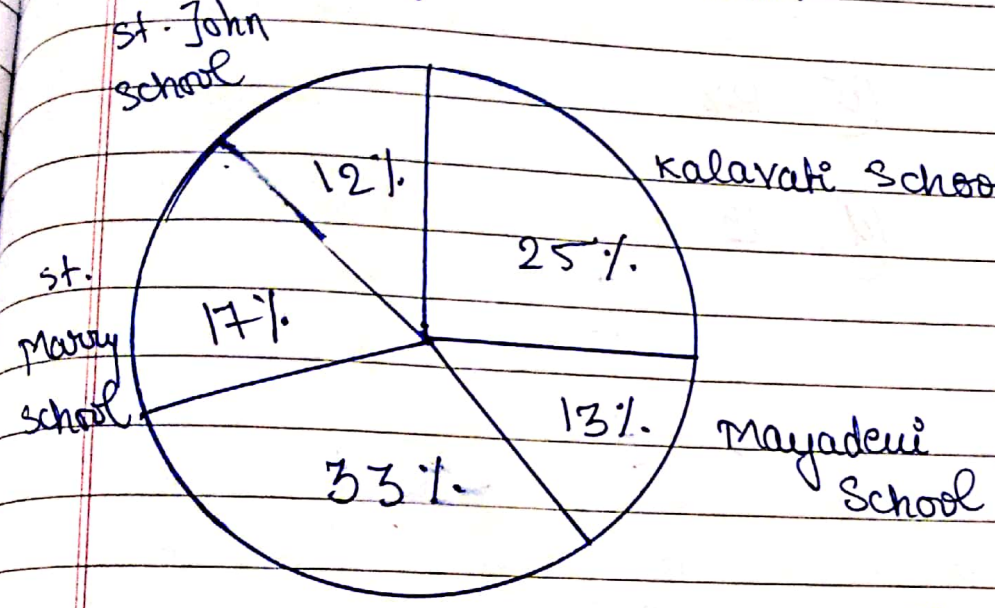
Total no. of females from Agrawal & Gaikwad institute who qualified MAT

$= \frac{30}{100} \times 4 + \frac{20}{100} \times 16 = 4.4$ thousand.

$\therefore$ Required Percentage $= \frac{14.55}{4.5} \times 100$

$= 330\%$

Q3. Pie - chart shows the percentage break-up of employee working in various ~~departments~~ schools and table - chart shows the female employees in them.



Total Number of Employees = 600.

Department	Number of Females
Naik School	42
St. John School	47
St. Marry School	49
Kalavati School	29
Mayadevi School	44

Date ___/___/_____

Q A. The number of females working in Kalawati school is what percent of the total number of employees working in that ~~step~~ school?

(a) 6 (b) 28

(c) 11 (d) 19

Ans - (d), 19.

Kalawati School

total employee = $600 \times \frac{25}{100} = 150$.

Required No. of females - 29

Required percentage - $150 \times \frac{x}{100} = 29$

$\therefore x = 19.33$

$= 19\%$.

Q B. What is the respective ratio between the number of Males working in Mayadevi school and the total number of employee in that school?

(a) 17:39 (b) 15:37

(c) 18:43 (d) 13:41

Ans - (a) 17:39

Total employee in Mayadevi School = $600 \times \frac{13}{100} = 78$.

Number of Males = $78 - 44 = 34$

$\therefore$ Male : Total
34 : 78
17 : 39

9C. The number of females working in St. Marry school forms what percent of the total number of employee in all the schools together?

(a) 7.73 (b) 9.31

(c) 5.23 (d) 8.17

Ans : (d), 8.17

Total employees all together = 600.

No. of females in St. Mary School = 49

Required Percentage = $600 \times \frac{x}{100} = 49$

$x = 8.1\%$

Q5. What is the respective ratio of the number of Males working in St. John School to the number of females working in that school?

(a) 41:68 (b) 16:33

(c) 25:47 (d) 35:59

Ans = (c), 25:47.

Total No. of employees in St. John School = $600 \times \frac{12}{100} = 72$.

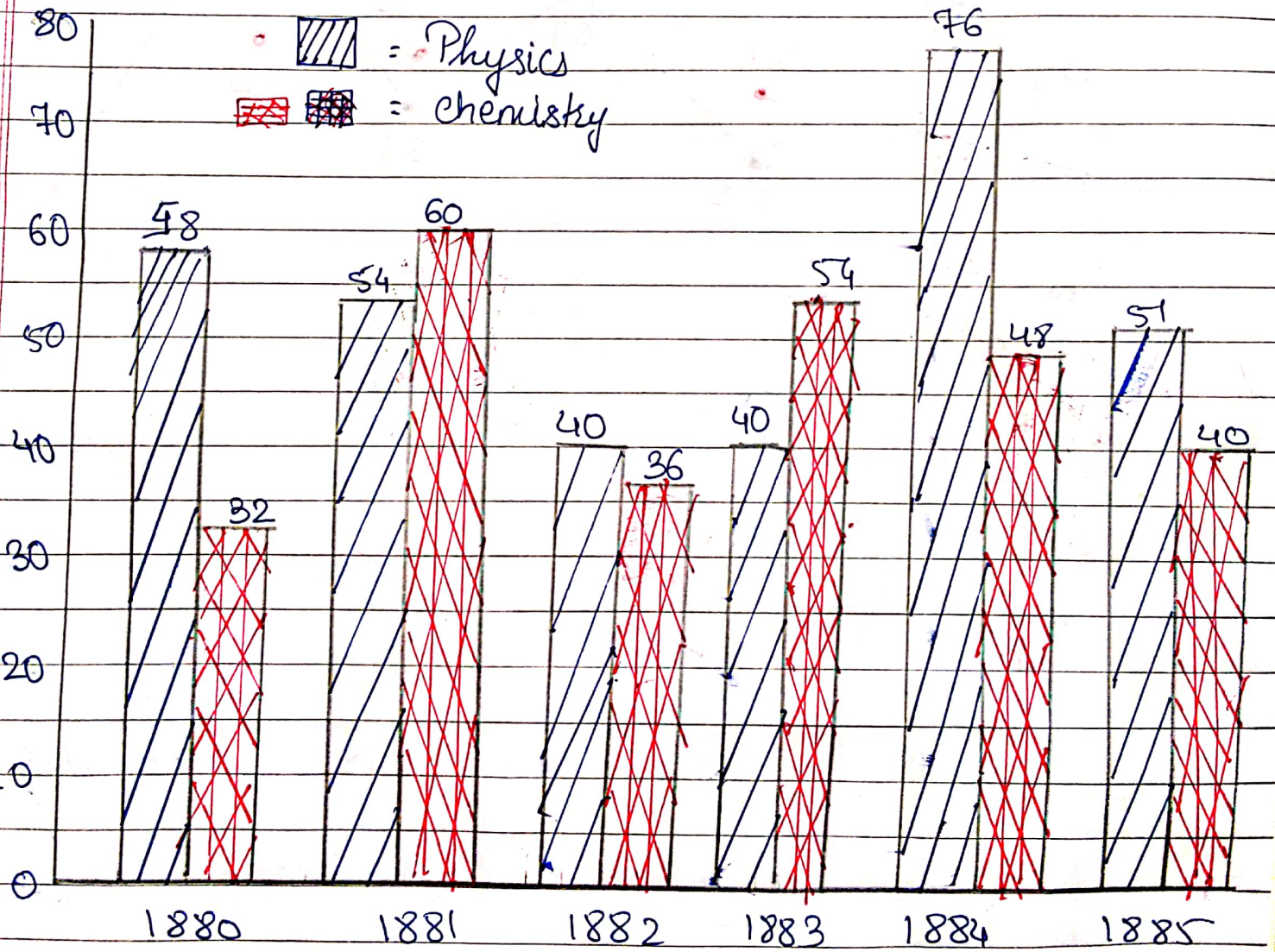
No. of females = 47

No. of Males = 72 - 47 = 25

∴ Male : female

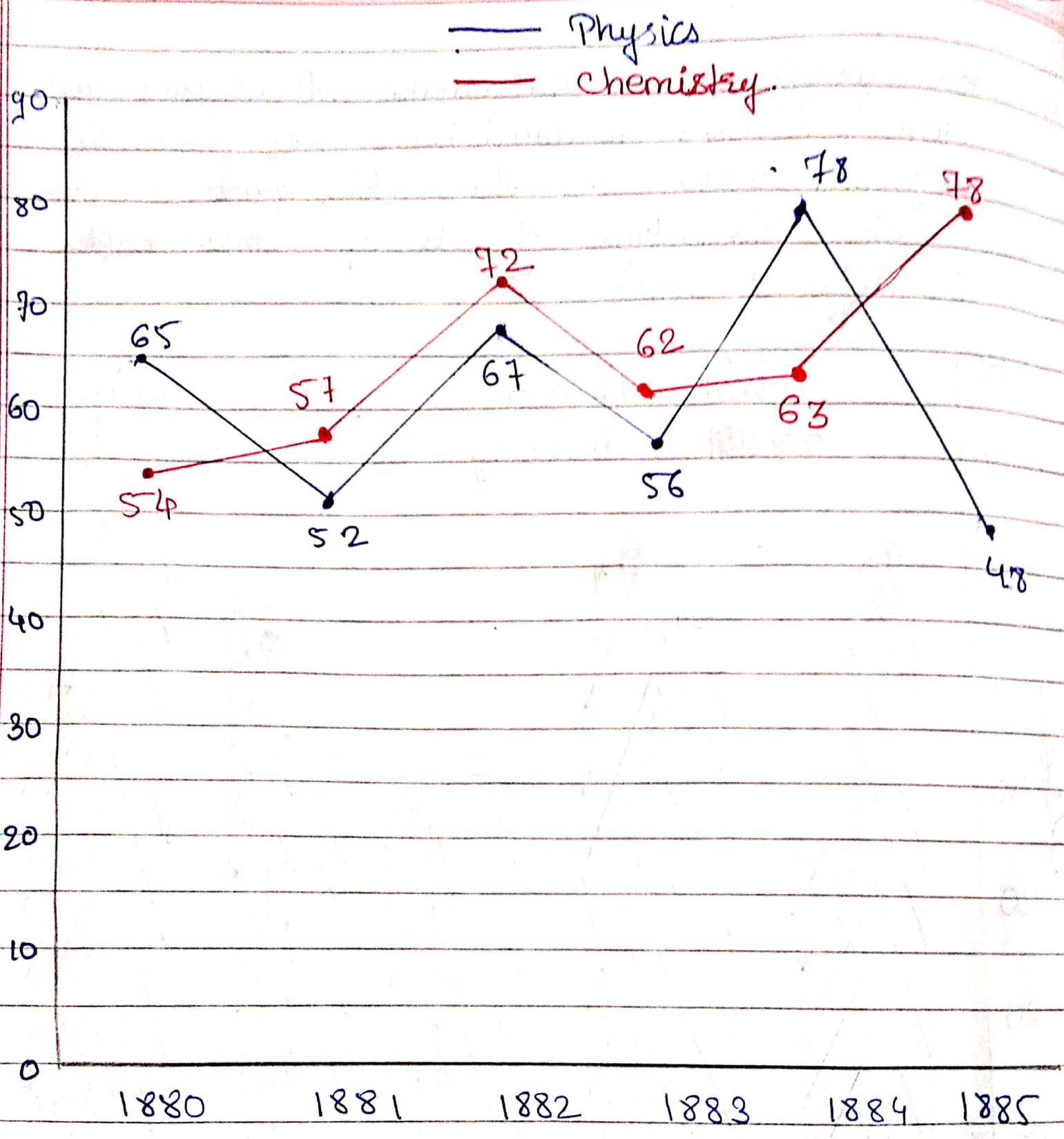
25 : 47

Q 4. Bar-graph shows the number of physics and chemistry books produced by a company in different years and the line graph shows the percentage of sale of these books in different years.



Date __/__/____

1997


Physics
Chemistry
90
80
70
60
50
40
30
20
10
0
65
52
67
56
78
48
54
57
72
62
63
78
1880
1881
1882
1883
1884
1885

Date __/__/____

100
99

Saathi

Q4. What is the total number of Physics books sold in all 6 years together?

(a) 1,25,240 (b) 1,92,240

(c) 198,740 (d) 1,98,280.

Ans = (c), 1,98,740

1880 $\Rightarrow 58 \times \frac{65}{100} = 37.7$

1881 $\Rightarrow 54 \times \frac{52}{100} = 28.08$

1882 $\Rightarrow 40 \times \frac{67}{100} = 26.8$

1883 $\Rightarrow 40 \times \frac{56}{100} = 22.4$

1884 $\Rightarrow 76 \times \frac{78}{100} = 59.28$

1885 $\Rightarrow 57 \times \frac{48}{100} = 24.48$

$37.7 + 28.08 + 26.8 + 22.4 + 59.28 + 24.48 = 198.74$

$= 198740$

Saath

Q B. What is the total number of sold physics books in the year 1883?

(a) 33480 (b) 33560

(c) 32140 (d) 34100

Ans = (a), 33480.

Production of physics books in 1883 = 54 thousand.

Books sold =

$$54 \times \frac{62}{100} = 33.48$$

$$= 33480$$

Q C. What is the difference between the number of chemistry books sold in 1884 and physics books unsold in 1881?

(a) 6500 (b) 4100

(c) 5000 (d) 4320

Ans = (d), 4320

Producer of Chemistry books in 1884, = 48000.

Chemistry books sold in 1884,

$48 \times \frac{63}{100} = 30.24$

$= 302$ 30240.

Production of Physics books in 1881 = 54000

Physics books sold in 1881,

$54 \times \frac{52}{100} = 28.08$

$= 28080.$

unsold = 54000 − 28080 = 25920.

difference required = 30240 − 25920

= 4320.

Q. What is the number of unsold chemistry books in 1882?

(a) 10200 (b) 10080

(c) 20100 (d) 10800

Ans = (b), 10080.

Saat

Production of chemistry books in 1882 = 36000.

Sold chemistry books =

$$\frac{36 \times 72}{100} = 25.92$$

$$= 25920$$

Unsold = 36000 − 25920

= 10080.

Q E. Total number of Physics books unsold in all the years together.

(a) 126266 (b) 319000

(c) 120260 (d) 198740

Ans = (c), 120260

Total Physics books production =

58 + 54 + 40 + 40 + 76 + 51 = 319

= 319 × 1000

= 319000

Sold = 198740

Unsold = 319000 − 198740

= 120260

Previous year DI-LR for CAT Preparation

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 Comprehension 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

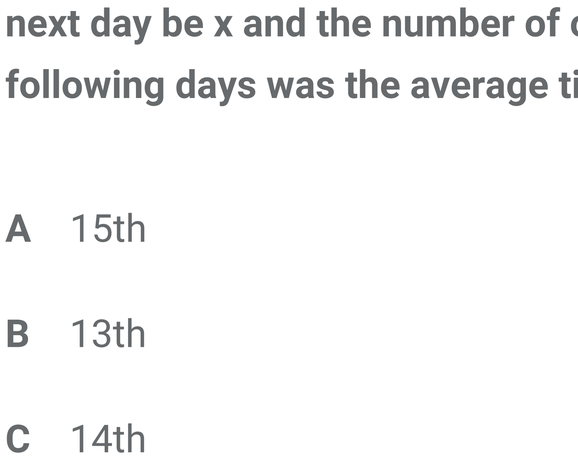
C 14th

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

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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

LRDI 2020

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?

LRDI 2020

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

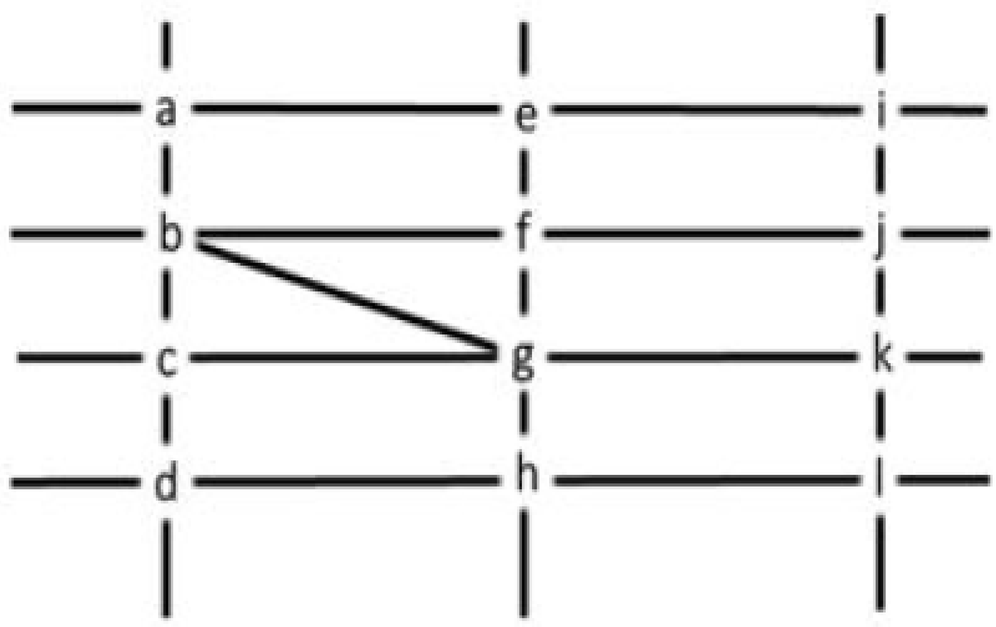
D B, D, W, and X

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

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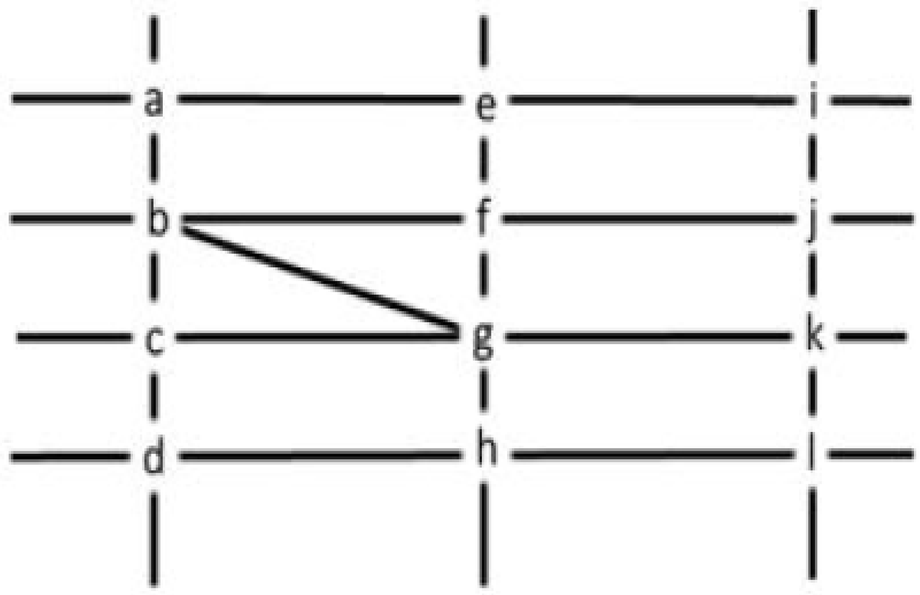
Comprehension 2:

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.



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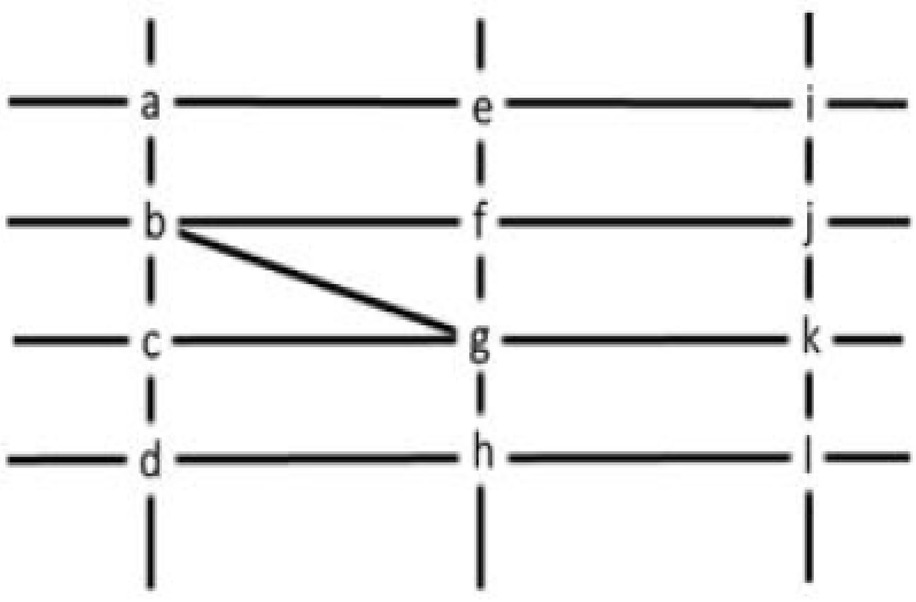
2. X can see only U and Z.
3. Y can see only U and W.
4. U sees V standing in the next intersection behind Z.
5. W cannot see V or Z.
6. No one among the six is standing at intersection d.

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

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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

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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.

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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

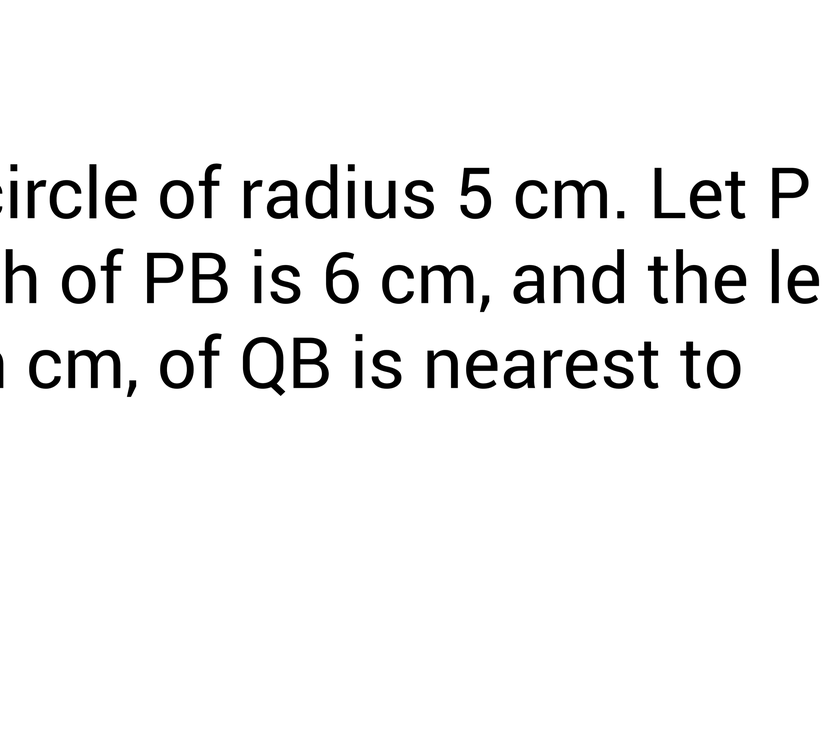
B 7.8

C 9.1

D 8.5

Correct Answer: 9.1

Explanation:



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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

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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

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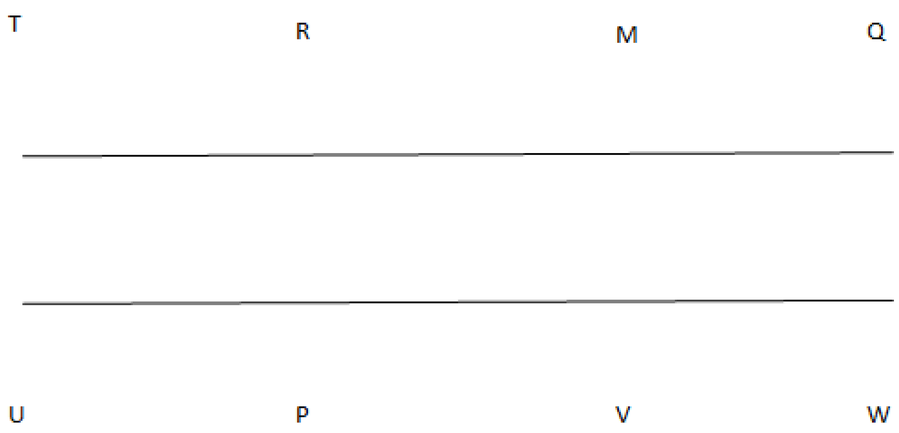
Question 4: Which of the following pairs of persons has second person sitting to the immediate left of the first person?
(a) UP
(b) VP
(c) QM
(d) RT
(e) None of these

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

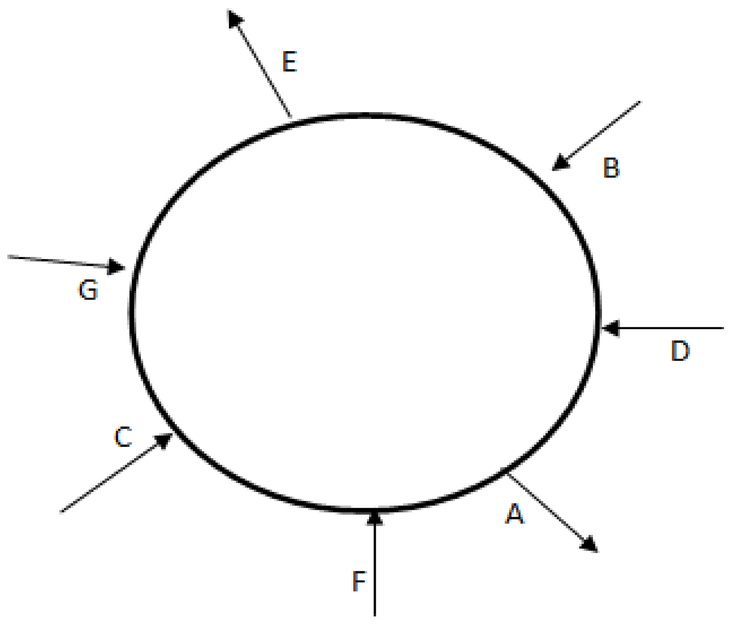
Question 2: Who is sitting second to the left of A?
(a) C
(b) G
(c) E
(d) B
(e) None of these

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:



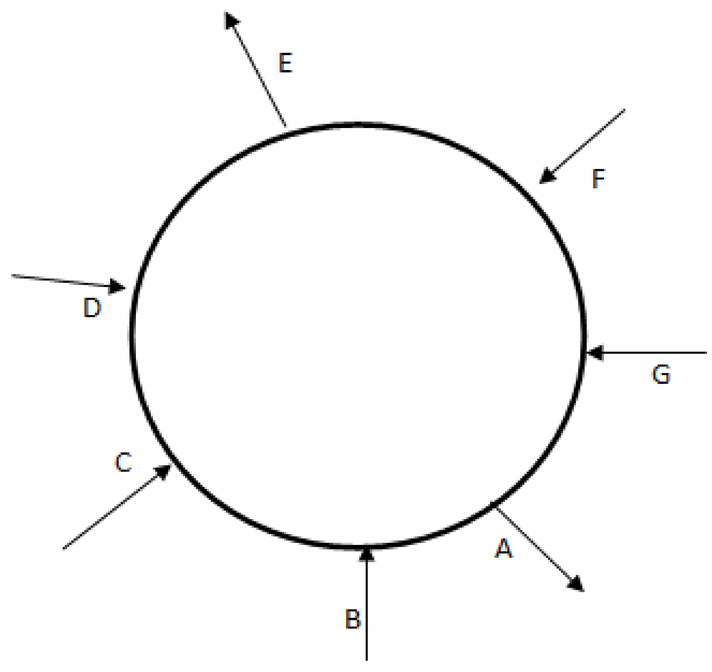
Answer 1: (c) A and E are the pair facing opposite to the centre.
Correct option is (c)

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.

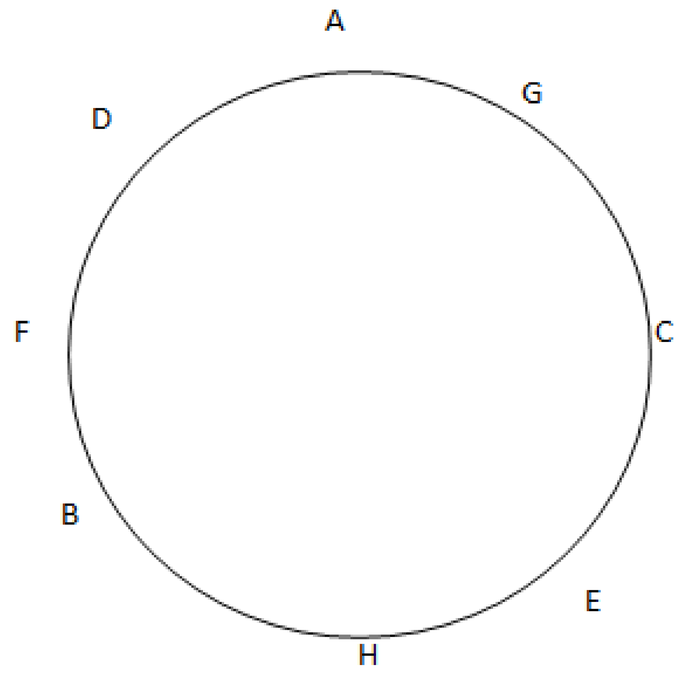
Question 1: Who amongst the following sits between B and D?
(a) G
(b) F
(c) H
(d) A
(e) C

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

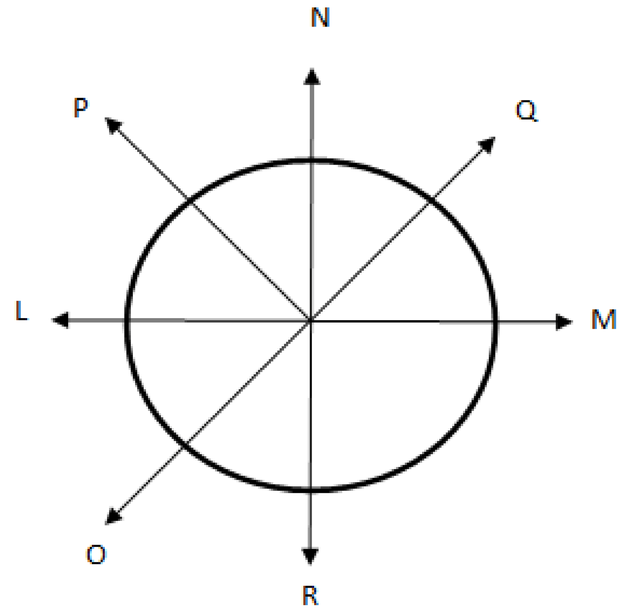
Question 2: How many persons are seated between L and Q if we count anticlockwise from L to Q?
(a) One
(b) Two
(c) Three
(d) Four
(e) More than four

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)

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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

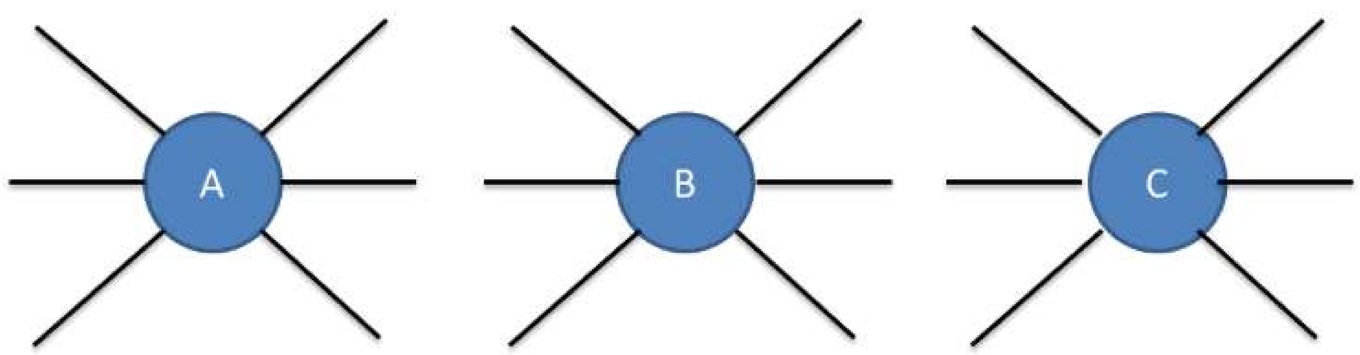
Correct Answer:

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

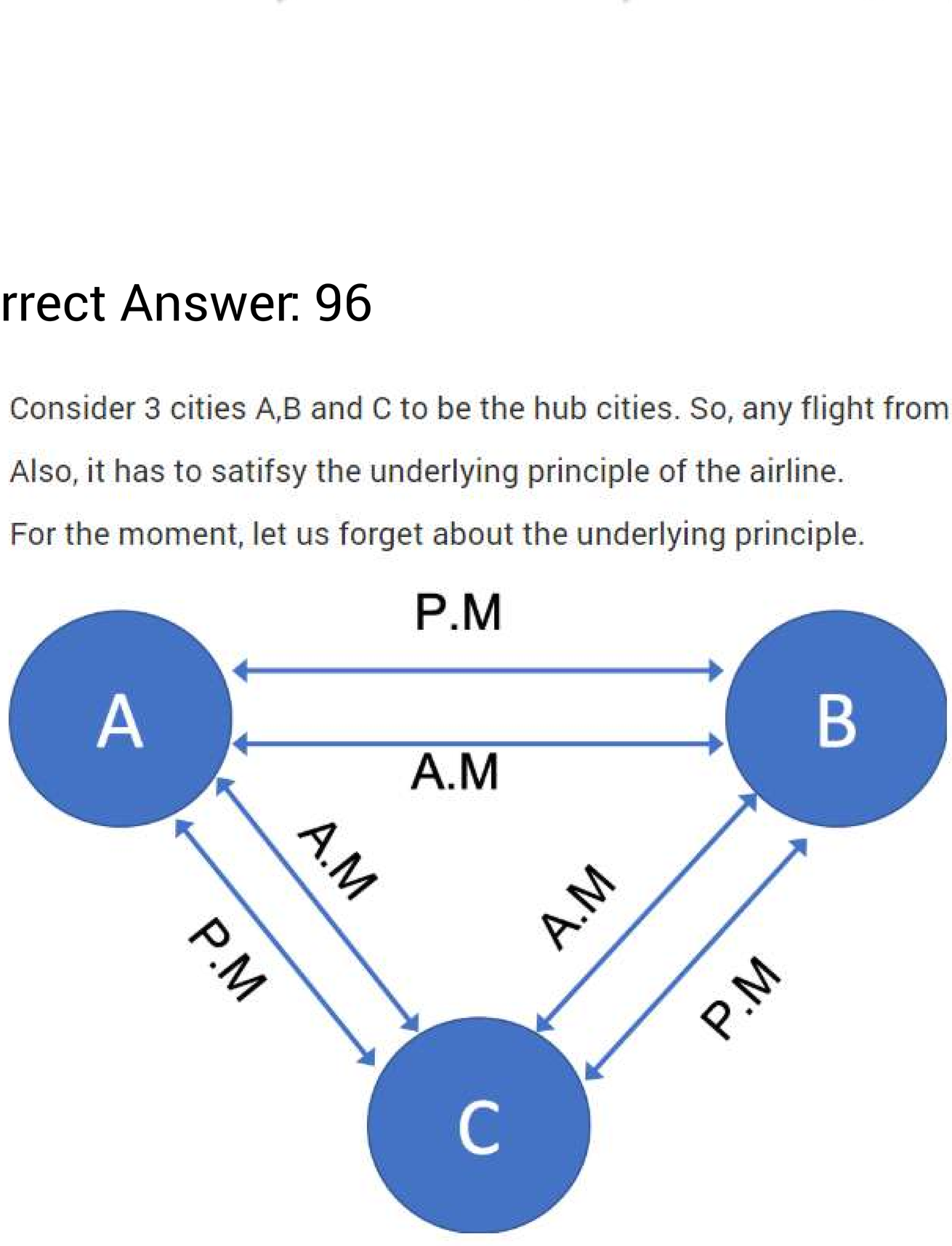
Correct Answer: 96

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.

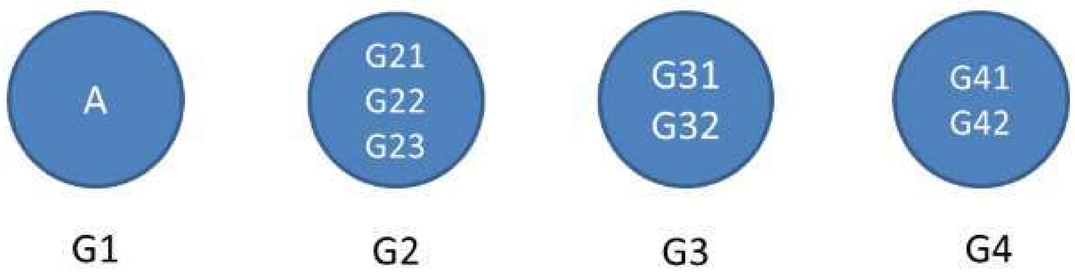
For 3 such parirs (AB, BC and AC), we have 4 * 3 = 12 flights.
Total number of flights to be operated = 84 + 12 = 96 flights.

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

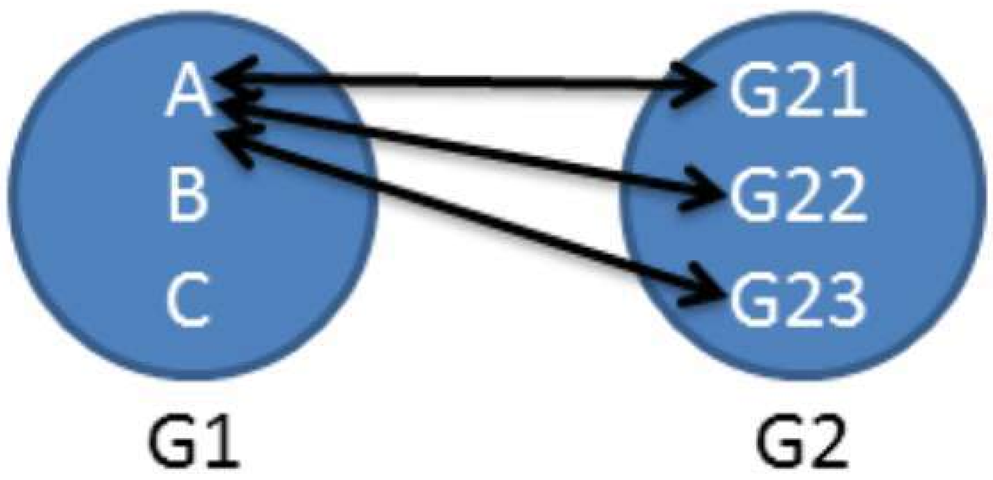
Then the minimum number of direct flights that satisfies the underlying principle of the airline is: (TITA)

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.

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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?

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 gets 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.
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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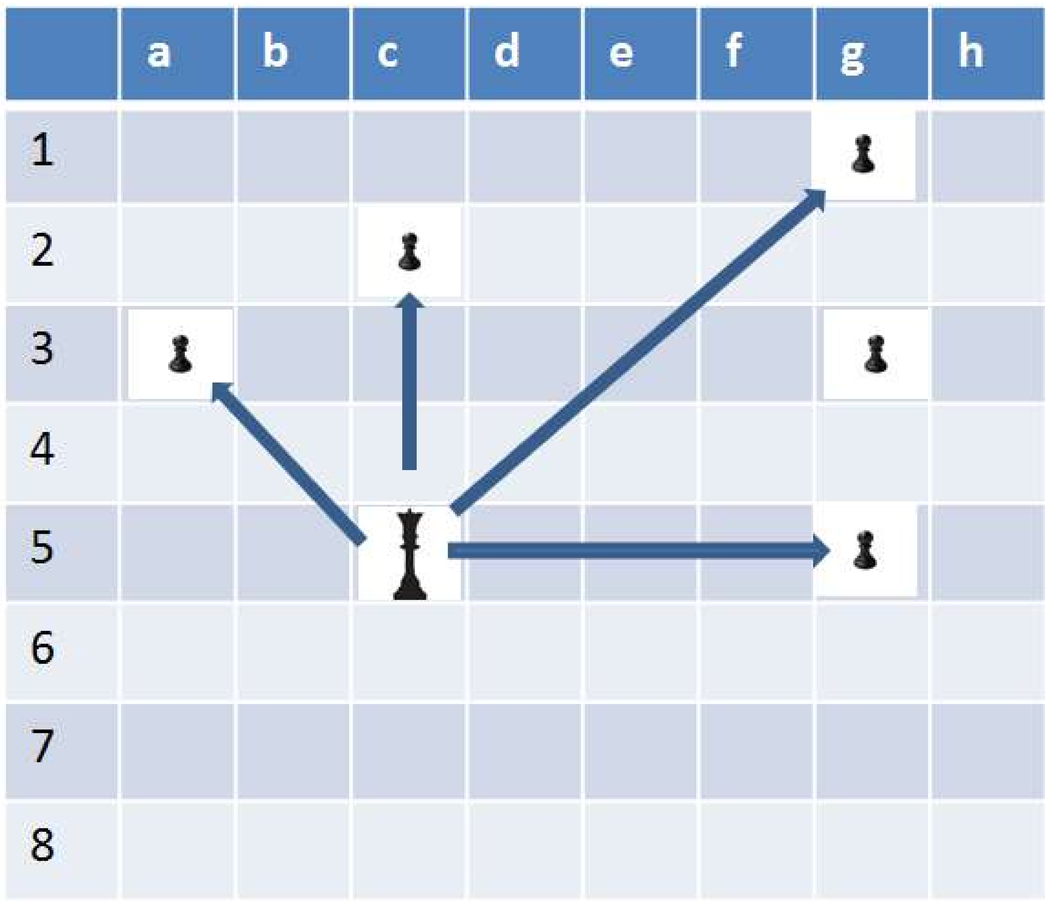
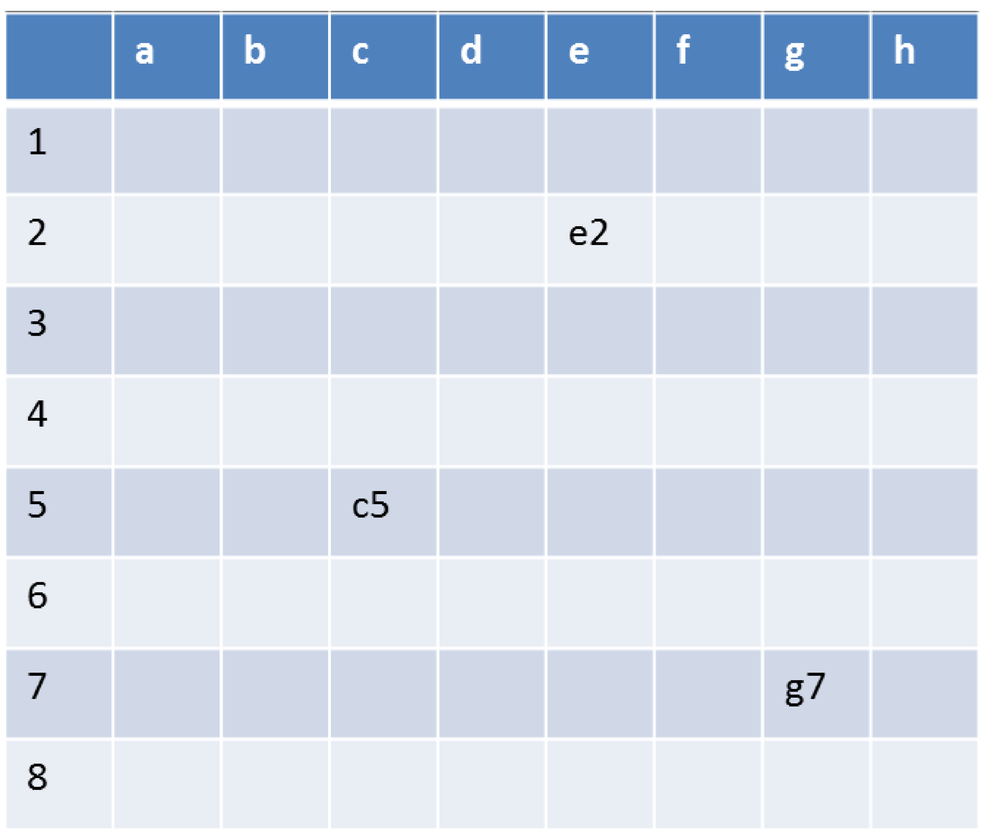


Question 2:

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



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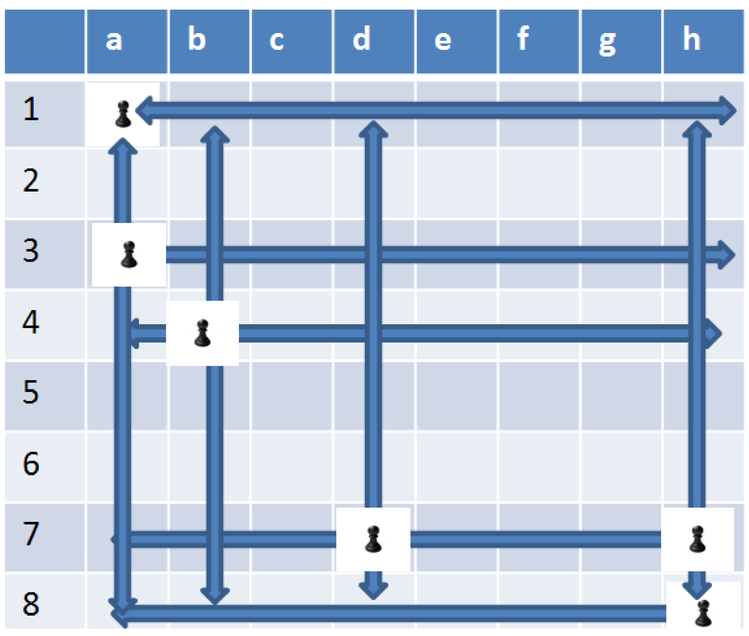
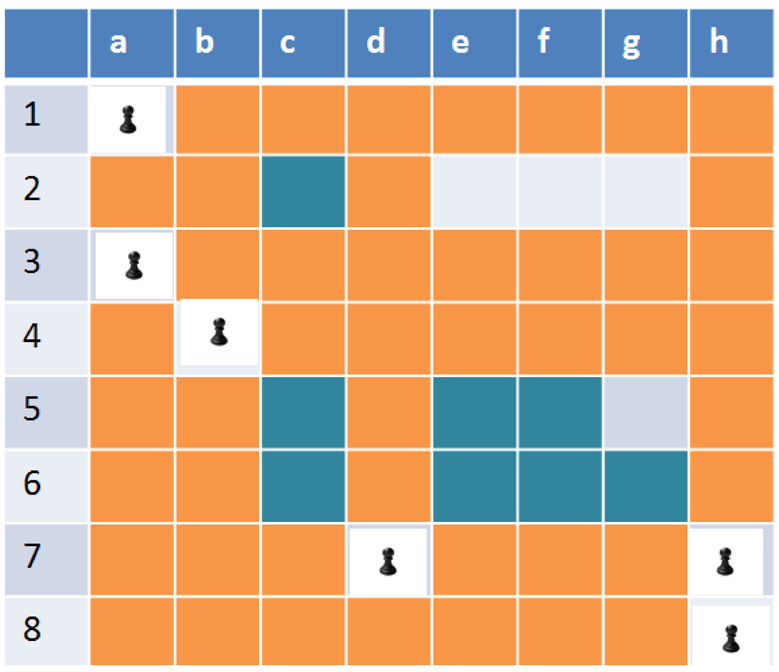
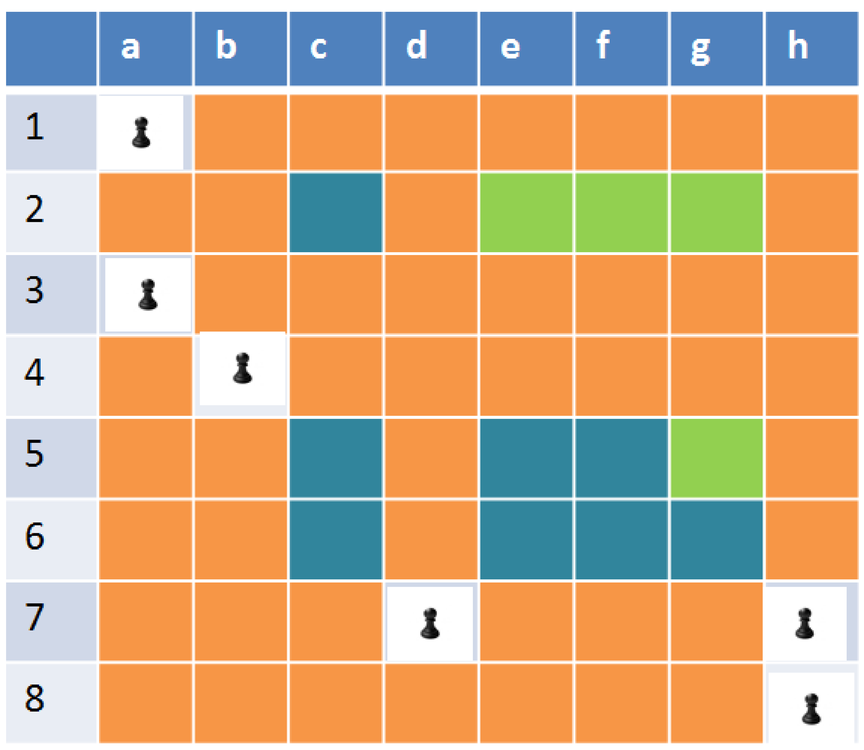
Let us think about the cells that will definitely get covered.
We eliminate 5 rows and 4 columns straight-away



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
- 35
- 36
- 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.

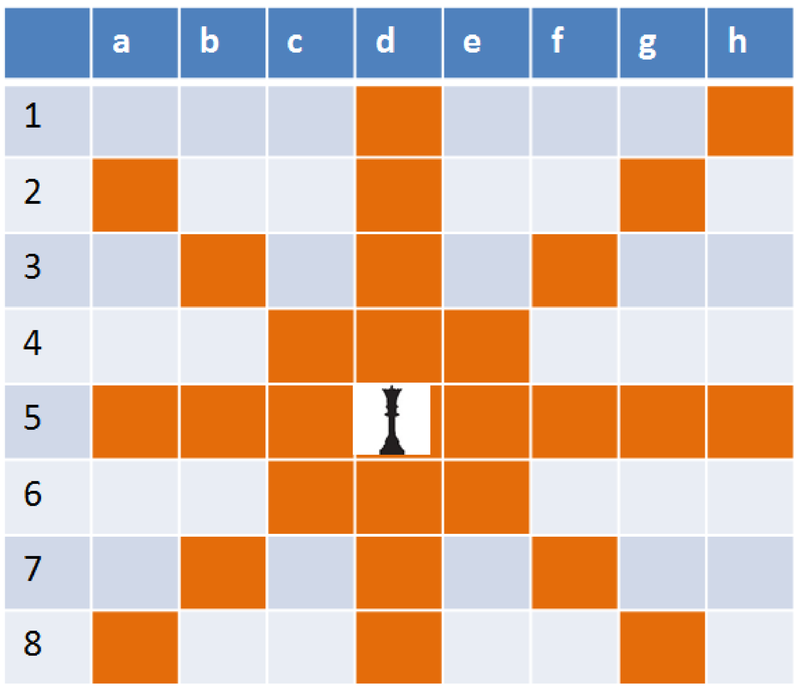
	a	b	c	d	e	f	g	h
1								
2					e2			
3								
4								
5			c5					
6								
7							g7	
8								

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

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	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

Correct Answer: 16

- 84
- 196

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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.

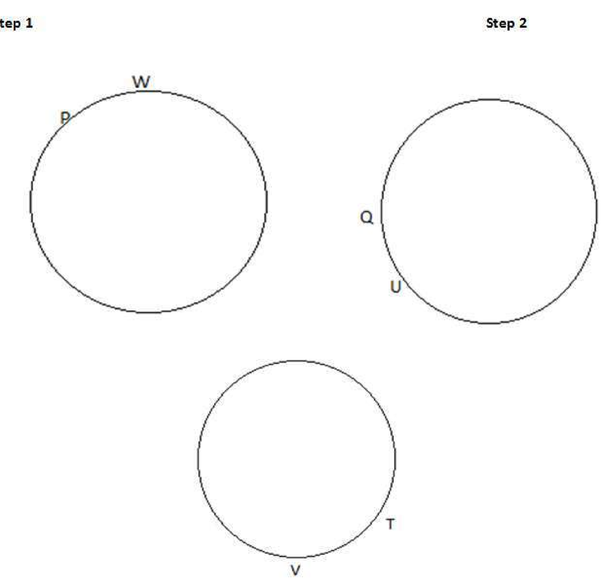
Question 1: What is the position of V?
(a) To the immediate right of W
(b) Between T and R
(c) Third to the right of U
(d) Second to the left of S
(e) None of these

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

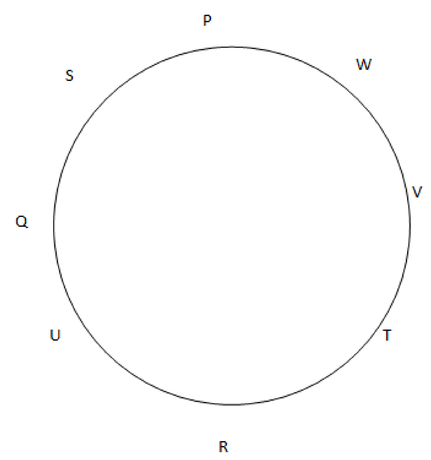
Question 3: Which of the following statements is true?
(a) U is the neighbour of V
(b) V is between W and T
(c) W is between P and S
(d) T is between U and Q
(e) None of these

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.

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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

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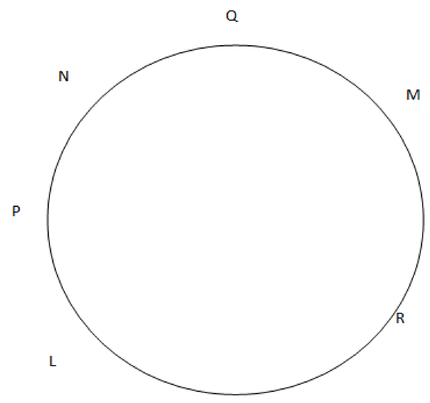
Question 5: Which is the one that does not belong to the group?
(a) LP
(b) RM
(c) MQ
(d) NP
(e) OR

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)