

TCS NQT Mock – 1

Verbal Ability

Topic – Reading Comprehension

(1-5) Directions: Read the passage carefully and answer the questions that follow.

Over the past 18 months, corporate India and the world of finance has been roiled by a peculiar problem: the promoters of a slew of companies have been eased out of board rooms because they pledged their shares to avail loans and then defaulted.

The suicide of Cafe Coffee Day's V.G. Siddhartha in July this year; the roller-coaster ride that Yes Bank Ltd's stock went through when its former promoter Rana Kapoor dealt with lenders; and even the unfolding financial scandal at Karvy Stock Broking Ltd have one thing in common—the use, or rather, overuse of a humble instrument called LAS (loan against shares).

The product has been in existence since trading began in Indian markets. It was primarily meant as a tool for stock market operators, who used their existing shares as security to borrow and speculate in the market. It was meant to be short term. And the sums were supposed to be small. Traditional banks even have an upper limit: Rs.20 lakh, if the collateral is purely shares (not applicable to brokerage firms). But mutual funds and non-banking financial companies (NBFCs) have no such limit.

Caught in a credit squeeze and a slowdown in traditional bank lending, promoters increasingly began to rely on pledged share to raise funds. In many cases, those funds came in through channels that are relatively less regulated than traditional banks, setting up a perfect storm.

When economic growth began to fall and “sentiments” began to collapse, lenders inevitably began calling in on the pledge or, in some cases, even selling the equity, reducing company promoters to minor shareholders in their own firms. The fortunes of at least six big promoters are on the line, including Zee Entertainment Enterprises Ltd’s Subhash Chandra and Reliance Group’s Anil Ambani.

The sparkling diamonds, or shares, which are forever, are usually never meant to be sold. It is the equivalent of bringing out the family silver. “How do you get funding in any market—you borrow, beg or steal,” said Amit Tandon, managing director of Institutional Investors Advisory Services (IIAS). “In a bad market such as this, borrowing is not happening because no one will lend. You are too proud to beg. So, you steal from your existing pool which is shares, pledge them, and borrow.”

Perhaps, the promoters never thought they would lose control. Perhaps, corporate India never anticipated a multi-quarter economic slowdown. Perhaps, internal risk-management mechanisms were extremely weak resulting in risky hedges and abuse of LAS. One thing is certain though: The unfolding saga of India Inc.’s troubled dalliance with LAS captures, in many ways, the degree of desperation among certain sections of the business community. It is a cautionary tale which could only get worse before it gets any better.

As per regulations issued by capital market regulator Securities and Exchange Board of India (SEBI), a company needs to disclose the amount of pledged shares, when the pledge is created, to whom the shares are pledged, and for what reason they have been pledged.

However, an analysis done by Mint shows that despite regulatory tightening, the disclosures are missing. In the case of at least four companies including Yes Bank, firms have not even disclosed to whom the shares have been pledged—a clear violation of disclosure norms.

Other companies such as Zee Entertainment, the Adani Group, GMR Group and Vedanta Ltd practice a more innovative strategy. They disclose the name of the trustee but not the pledgee, giving investors no indication regarding the purpose of the pledge.

For quite some time, SEBI and RBI have been on the same page regarding the need to crack down on excessive pledging. **The capital market regulator had expressed concern particularly about how regulated mutual funds have now assumed the role of lenders, rather than acting on behalf of investors.**

Several mutual funds have begun to invest in LAS products in their fixed maturity plan schemes, that is, papers with pledged shares as the underlying collateral. Due to a fear of default, the funds sometimes roll over the maturity date in the hope that a stake sale would result in realization of dues. SEBI has taken one step after another to stem this practice.

1) Why did the promoters of many companies not find a seat in the board room?

- a) They were interested in dealing in stocks, rather than managing the companies.
- b) They pledged their shares for loans, but could not settle the due.
- c) The stocks of the companies plummeted and they became minor shareholders.
- d) None of the above

Correct Choice: b

Explanation:

Refer:

Over the past 18 months, corporate India and the world of finance has been roiled by a peculiar problem: the promoters of a slew of companies have been eased out of board rooms because they pledged their shares to avail loans and then defaulted.

Obviously, option B is the correct answer.

2) Which of the following statements are true regarding the financial instrument 'loan against shares' (LAS)?

- a) Traditional banks don't have any upper limit while issuing loans through LAS.
- b) NBFCs do not have the authority to issue loans through LAS.
- c) The financial instrument LAS primary was designed to issue loans for long term.
- d) None of the above

Correct Choice: d

Explanation:

Refer:

The product has been in existence since trading began in Indian markets. It was primarily meant as a tool for stock market operators, who used their existing shares as security to borrow and speculate in the market. It was meant to be short term. And the sums were supposed to be small. Traditional banks even have an upper limit: Rs.20 lakh, if the collateral is purely shares (not applicable to brokerage firms). But mutual funds and non-banking financial companies (NBFCs) have no such limit.

Obviously, option D is the correct answer.

3) What does the author mean by the expression: 'It is a cautionary tale which could only get worse before it gets any better.'?

- a) The incident can get become worse before showing signs of improvement, and all businessmen should learn from it.
- b) The tale is a proverbial one and some experience is to be gained from it.
- c) No promoter should ever take loan through LAS and the situation should be remembered by all.
- d) None of the above

Correct Choice: a

Explanation:

“Cautionary tale” means ‘A story of warning’.

“Which could only get worse before it gets any better” means ‘the crisis may get worse, before situation improves’.

Only the sentence given in option A explains the statement given in the question appropriately.

Hence, option A is the correct answer.

4) What does the analysis done by Mint show?

- a) The analysis shows that regulations issued by SEBI mandate a company to disclose the amount of pledged shares, when the pledge is created, to whom the shares are pledged, and for what reason they have been pledged.
- b) The analysis shows that at least four companies are in violation of the regulatory norms issued by SEBI.
- c) The analysis shows that many companies disclose the name of the trustee but not the pledgee, giving investors no indication regarding the purpose of the pledge.
- d) B and C

Correct Choice: d

Explanation:

Refer:

As per regulations issued by capital market regulator Securities and Exchange Board of India (SEBI), a company needs to disclose the amount of pledged shares, when the pledge is created, to whom the shares are pledged, and for what reason they have been pledged.

However, an analysis done by Mint shows that despite regulatory tightening, the disclosures are missing. In the case of at least four companies including Yes Bank, firms have not even disclosed to whom the shares have been pledged—a clear violation of disclosure norms. Other companies such as Zee Entertainment, the Adani Group, GMR Group and Vedanta Ltd practice a more innovative strategy. They disclose the name of the trustee but not the pledgee, giving investors no indication regarding the purpose of the pledge.

The statement given in option A is true, except, the statement has no

relation with the analysis done by Mint.

Hence, option D is the correct answer.

5) Which of the following is the author's opinion regarding shares?

- a) The author compares 'share' with 'sparkling diamond'.
- b) The author thinks that usually one should never sell 'shares'.
- c) The author draws an analogy between 'shares' and 'family silver'.
- d) A, B and C

Correct Choice: d

Explanation:

Refer:

The sparkling diamonds, or shares, which are forever, are usually never meant to be sold. It is the equivalent of bringing out the family silver. "How do you get funding in any market—you borrow, beg or steal," said Amit Tandon, managing director of Institutional Investors Advisory Services (IIAS). "In a bad market such as this, borrowing is not happening because no one will lend. You are too proud to beg. So, you steal from your existing pool which is shares, pledge them, and borrow."

Obviously, option D is the correct answer.

Topic – Error Location

(6-8) Directions: In this question, a sentence has been divided into four parts marked as I, II, III and IV. You need to find which part/parts does not/do not have any error in terms of grammatical or contextual usage. If the sentence is absolutely correct, mark (D) as your answer.

6)

- I. A tradition, said to have been starting by St Francis of Assisi
- II. in 1223 at Greccio, central Italy, the Nativity scene
- III. emphasises the spiritual aspects of Christ's birth and advocates
- IV. worship over materialism during the festivity season.

- a) Only I, II and III
- b) Only I and III
- c) Only II and III
- d) No error

Correct Choice: c

Explanation:

The errors are in part I and part IV.

Reason:

In part I, "have been starting" is erroneous. The correct word in place of "starting" should have been "started".

In part IV, the word “worship” is erroneous. The correct word in place of “worship” should have been “worshipping”. [“Worshipping” and “materialism” are both nouns.]

The rest of the parts are correct.

Hence, option C is the correct answer. Only I, II and III

(6-8) Directions: In this question, a sentence has been divided into four parts marked as I, II, III and IV. You need to find which part/parts does not/do not have any error in terms of grammatical or contextual usage. If the sentence is absolutely correct, mark (E) as your answer.

7)

- I. The consumer economy scorecard
- II. of India appear particularly bleak,
- III. with vehicle sales growth losing momentum,
- IV. after hinting at a turnaround in the previous month.

- a) Only I and II
- b) Only I, III and IV
- c) Only I and III
- d) No Error

Correct Choice: b

Explanation:

The error is in part II.

Reason:

The subject of the sentence (The consumer economy scorecard) is singular. Hence, the verb should also be singular.

The verb (appear) given in part II is a plural verb. This is incorrect.

The correct verb in place of “appear” should have been “appears”.

The rest of the parts are correct.

Hence, option B is the correct answer.

(6-8) Directions: In this question, a sentence has been divided into four parts marked as I, II, III and IV. You need to find which part/parts does not/do not have any error in terms of grammatical or contextual usage. If the sentence is absolutely correct, mark (E) as your answer.
8)

I. With new tools and new expeditions,
II. scientists are peering into Antarctica's nooks and crannies
III. and even its subsurface, discovering a world
IV. that seems unimaginable from more temperate climes.

- a) Only I and II
- b) Only I and III
- c) Only II and III
- d) No Error

Correct Choice: d

Explanation:

There is no error in the given sentence.

The sentence is absolutely correct.

Hence, option D is the correct answer.

Topic - Active Voice / Passive Voice

9) Choose the most appropriate option to change the voice (active / passive) form of the given sentence.

I am to do it immediately.

- a) It is supposed to be done by me immediately.
- b) It has to be done by me immediately.
- c) It is to be done by me immediately.
- d) It is being done by me immediately.

Correct Choice: c

Explanation:

Given Sentence:

I am to do it immediately.

In the above sentence, the subject 'I' is performing the action, so the sentence is made in active voice.

The given sentence is made in present tense using an infinitive which here shows the sense of near future.

Rule:

Object in the original sentence + am/is/are + to be + V_3 + Prep + Subject in the original sentence + other word

Passive Voice:

It is to be done by me immediately.

Hence, option C is the correct answer.

Topic – Phrase Replacement

10) Identify the best way to improve the bold part of the given sentence. If there is no improvement required, select ‘No improvement’.

In today's time, many private companies **follow the concept** of corporate social responsibility.

- a) Follows the concept
- b) follow the concepts
- c) follows the concepts
- d) No improvement

Correct Choice: d

Explanation:

The above sentence is absolutely correct so no correction is required.

Hence, option D is the correct answer.

Topic – Para – Jumbled Sentences

11) Given below are four jumbled sentences. Pick the option that gives their correct order.

A. The shift to stringent emissions norms, the transition to electrification, and potentially changing consumer preferences with shared mobility and a connected ecosystem.

B. Change may be the only constant, but the pace with which it takes place is not.

C. There are primarily three factors causing this disruption.

D. The automotive industry is seeing a spectrum of disruptions, as we move towards a cleaner, safer and convenient transport ecosystem.

- a) DACB
- b) CABD
- c) CDAB
- d) BDCA

Correct Choice: d

Explanation:

If we read all the sentences, we can infer that they are not in a correct order.

After reading all the sentences, we can clearly say that 'B' is the only opening statement of the passage.

Further, a supportive statement to the previous one comes in place that is

'D' will follow 'B'.

Then, 'C' will come after 'D' as the linking part is 'disruptions'.

Lastly, 'A' will end the passage describing all the three factors.

Thus, we get the final arrangement: BDCA

Hence, option D is the correct answer.

Topic – Direct / Indirect Speech

12) Choose the most appropriate option to change the Narration (direct/indirect) form of the given sentence.

Meena inquired of me why I had done that.

- a) Meena told me, “Why did I do that?”
- b) Meena said to me, “Why did you do that?”
- c) Meena said to me, “Why did you do this?”
- d) Meena asked me, “Why did you did this?”

Correct Choice: c

Explanation:

As there are no quotes in the sentence, it is the case of an indirect narration.

Reporting Speech Tense: Past Indefinite

Reported Speech: The indirect narration is given in Past Perfect Tense so it will reversely be converted into Past Indefinite Tense.

Changes to be followed:

Reporting verb ⇒ said to

I ⇒ You

Had ⇒ did

Done ⇒ do

That ⇒ this

The sentence in direct speech will become:

Meena said to me, “Why did you do this?”

Option C is hence the correct answer.

Topic – Phrase Replacement

13) Identify the best way to improve the bold part of the given sentence. If there is no improvement required, select ‘No improvement’.

The blogger **asks their followers** to share the feedback on his recent post.

- a) asked their follower
- b) asked his followers
- c) asks his followers
- d) No improvement

Correct Choice: b

Explanation:

First of all, if we look at the sentence it says 'blogger' that means it is only talking about one person so it shows that correction is required so option D gets eliminated and we cannot use 'their' for a singular person so option A is also eliminated.

Secondly, the sentence conveys that the task has already been completed so it has to be in past tense so the option we are left is B.

Correct sentence-

The blogger asked his followers to share the feedback on his recent post.

Hence, option B is the correct answer.

Topic – Para – Jumbled Sentences

(14-15) Given below are four jumbled sentences. Pick the option that gives their correct order.

14)

A. Instead of spending meagre local resources to rebuild faltering demand, India is betting that world's growth this year will be down in the dumps.

B. Luring overseas investors to high yielding Indian assets is the preferred strategy.

C. An all-out push to revive its sputtering economy is not within India's reach.

D. And that will make India appear attractive to foreigners even when it really isn't.

- a) DACB
- b) CADB
- c) CDAB
- d) BDAC

Correct Choice: b

Explanation:

If we read all the sentences, we can infer that they are not in a correct order.

If we observe all the sentences carefully, we can understand that 'C' is the opening statement of the passage.

Further, 'C' is followed by 'A' A is providing a solution to the problem which is continued in 'D' and lastly, 'B' will end the passage on a positive note.

Thus, we get the final arrangement: **CADB**

Hence, option B is the correct answer.

(14-15) Given below are four jumbled sentences. Pick the option that gives their correct order.

15)

A. Especially where the penetration of mobile telephony and social media exceeds that of education and awareness.

B. Also because it may induce people to act on the information.

C. Fake news is a menace because it is usually motivated by an intent to deceive and misinform.

D. This can have grave consequences beyond imagination.

a) DACB

b) CBDA

c) CDAB

d) DBAC

Correct Choice: b

Explanation:

If we read all the sentences, we can infer that they are not in a correct order.

Among all the above sentences, it is very clear to find out that the opening statement is 'C' as the whole passage revolves around 'fake news'.

Further, 'C' is followed by 'B' as it continues to mention the reasons behind spread of fake news.

The, 'D' will follow 'B' because it is stating its impact which is followed by 'A' that is continuing stating its impacts.

Thus, we get the final arrangement: **CBDA**

Hence, option B is the correct answer.

Topic – Error Location

16) Identify the segment in the sentence, which contains the grammatical error.

The egg were fragile, with the thin outer shell protecting its liquid interior until it was put in the boiling water.

- a) with the thin outer shell
- b) The egg were fragile,
- c) it was put in the boiling water.
- d) protecting its liquid interior until

Correct Choice: b

Explanation:

Fragment B of the sentence is erroneous.

Reason:

The usage of '**were**' (second person singular past, plural past, and past subjunctive of the verb 'to be') is incorrectly used with the singular noun 'egg.'

Thus, it shall be replaced with '**was**' (first and third person singular past of the verb 'to be').

[*Forms of the verb to be: be, am, is, are, was, were, will be, being, been.]

Correct Sentence:

The egg was fragile, with the thin outer shell protecting its liquid interior until it was put in the boiling water.

Thus, Option B is the correct answer.

Topic – Active / Passive Voice

17) Choose the most appropriate option to change the voice (active / passive) form of the given sentence.

Somebody built the house last year.

- a) The house has been built last year.
- b) The house is built last year by someone.
- c) The house was being built last year by somebody.
- d) The house was built last year.

Correct Choice: d

Explanation:

Given Sentence:

Somebody built the house last year.

In the above sentence, the subject 'Somebody' is performing the action, so the sentence is made in active voice.

The given sentence is in Past Indefinite Tense.

Rule:

Object in the original sentence + was/were + V₃ + Other word.

(Note: Make sure, the subject 'somebody' is generally not used in the last as 'by somebody' while converting the sentence into passive voice.)

Passive Voice:

The house was built last year.

Hence, option D is the correct answer.

Topic – Phrase Replacement

18) Identify the best way to improve the bold part of the given sentence. If there is no improvement required, select 'No improvement'.

We all can succeed if we **focus major on** our personal growth.

- a) focus majorly on
- b) focuses majorly at
- c) focused majority on
- d) No improvement

Correct Choice: a

Explanation:

Here in this sentence we need an adverb (majorly) not 'noun/verb/adjective' (major) right after 'Focus'.

Correct sentence-

We all can succeed if we focus majorly on our personal growth.

Hence, option A is the correct answer.

Topic – Para- Jumbled Sentences

19) Given below are four jumbled sentences. Pick the option that gives their correct order.

A. Banijay's acquisition of the Endemol Shine Group globally may still be a work-in-progress, but the latter is already working on the Dutch show Penzoza for India.

B. The Indian arm of Paris-based company Banijay Group is developing the Indian versions of American reality show Survivor and legal thriller Damages, Belgian TV series The Mole and Turkish drama Public Enemy.

C. Meanwhile, Sameer Nair-led Applause Entertainment is bringing the Indian versions of Israeli shows Your Honour and Fauda.

D. New-age content creators on video streaming services are now looking at popular international formats that they can localize as the next bait to hook Indian audiences.

- a) DBAC
- b) CABD
- c) CDAB
- d) BDCA

Correct Choice: a

Explanation:

If we read all the sentences, we can infer that they are not in a correct order.

After reading all the statements, we can notice that 'D' will come as the starting point of the passage as it is the lone sentence that is making some sense as the opening statement.

Further, 'B' will follow 'D' as it is continuing the concept of streaming services and then 'A' will follow 'B' because we can say that 'Banijay' is the linking part for better and easy understanding of the context.

Lastly, the remaining part 'C' will conclude the passage in the same context.

Thus, we get the final arrangement: **DBAC**

Hence, option A is the correct answer.

Topic – Error Location

20) Identify the segment in the sentence, which contains the grammatical error.

Once upon a time, a daughter complained to her father that his life was miserable and that she didn't know how she was going to make it.

- a) life was miserable and that she
- b) complained to her father that his
- c) didn't know how she was going to make it.
- d) Once upon a time, a daughter

Correct Choice: b

Explanation:

Fragment B of the sentence is erroneous.

Reason:

The usage of determiner '**his**' is incorrect in the phrase 'his life.' The determiner 'his' – refers to 'belonging to or associated with a male person or animal previously mentioned or easily identified.'

However, it is the female 'daughter' who is complaining to her father. Thus, it shall be replaced with '**her**.' The determiner 'her' – is used as the object of a verb or preposition to refer to a female person or animal previously mentioned or easily identified.

Ex. Ram was very concerned about **his** future.

Ex. Jenna was looking forward to **her** promotion.

[***Determiner** – refers to a modifying word that determines the kind of reference a noun or noun group has, for example a, the, that, his, every.]

Correct Sentence:

Once upon a time, a daughter **complained to her father that her** life was miserable and that she didn't know how she was going to make it.

Thus, option B is the correct answer.

Topic – Active / Passive Voice

21) Choose the most appropriate option to change the voice (active / passive) form of the given sentence.

A book has been given to me by him last week.

- a) He has been given me a book last week.
- b) He has given me a book last week.
- c) He has gave me a book last week.
- d) A book has to be given to me last week.

Correct Choice: b

Explanation:

Given Sentence:

A book has been given to me by him.

In the above sentence, the subject 'A book' is receiving the action and hence the sentence is in passive voice.

The given sentence is given in Present Perfect Tense.

Rule:

Object in the original sentence + has/have + V₃ + Subject in the original sentence.

Active Voice:

He has given me a book.

Hence, option B is the correct answer.

Topic – Phrase Replacement

22) Identify the best way to improve the bold part of the given sentence. If there is no improvement required, select 'No improvement'.

In order to be successful, students must inculcate a **habits of discipline** routine.

- a) habit of discipline
- b) habit of disciplined
- c) habits of disciplined
- d) No improvement

Correct Choice: b

Explanation:

The mention of 'a' reflects that the use of plural noun (habits) with it is incorrect and we need to replace it with singular noun (habit) as well as we need an adjective (disciplined) right before the 'routine' not a noun/verb (discipline).

Correct sentence-

In order to be successful, students must inculcate a habit of disciplined routine.

Hence, option B is the correct answer.

Topic – Single Filler

23) Select the most appropriate option to fill in the blank.

The brain keeps _____ over one's life, its very structure shaped by a wide variety of stimuli all round.

- a) Evolving
- b) Accelerating
- c) Controlling
- d) balancing

Correct Choice: a

Explanation:

If we observe the sentence closely, we can understand the fact that our brain is made up of muscles and tissues that constantly changes its structure and form over time and this exact meaning can be well understood if we place 'evolving' in the blank above.

Clearly, option A is the correct answer.

Topic – Phrase Replacement

24) Identify the best way to improve the bold part of the given sentence. If there is no improvement required, select 'No improvement'.

Parents should encourage their **child to participating** in recreational activities as well.

- a) children to participate
- b) children for participation
- c) child to participate
- d) No improvement

Correct Choice: a

Explanation:

The presence of 'their' indicates that it has to be followed by plural noun (children) not singular noun (child) and we know the grammar rule 'to+V1' because we do not need a gerund here.

Correct sentence-

Parents should encourage their children to participate in recreational activities as well.

Hence, option A is the correct answer.

Reasoning Ability

Topic – Square Sitting Arrangement

(25-29) Directions: Read the following information carefully and answer the questions given beside.

Eight bottles from B1 to B8 were placed around a square table such that the bottles which have odd numbers in their name were placed at each of the corners while the bottles that have even number in their name were placed in the middle of each side of the table. All the bottles were facing towards the centre. B2 is third to the right of B7. B3 is on the immediate right of B4, which is adjacent to B7. B6 is not placed adjacent to B7. B1 is on the immediate left of B6.

25) Which of the following is on the immediate left of B5?

- a) B8
- b) B6
- c) B4
- d) B7

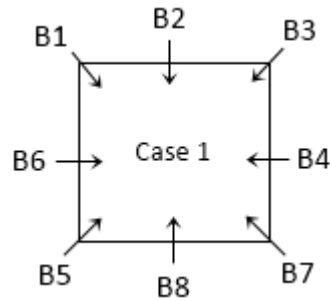
Correct Choice: b

Explanation:

B6 is on the immediate left of B5.

Hence option B is correct.

Final Arrangement:



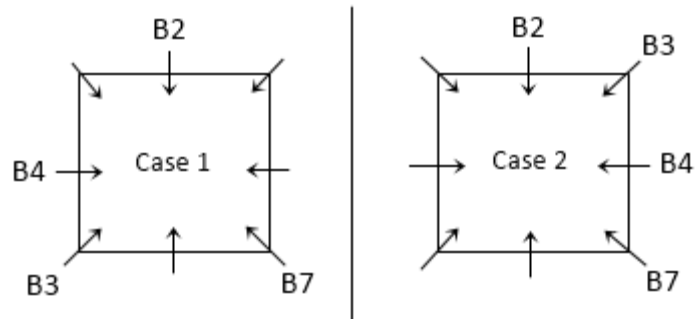
Common Explanation:

Reference:

B2 is third to the right of B7.
B3 is on the immediate right of B4, which is adjacent to B7.

Inference:

Following two cases occur with the given hints.

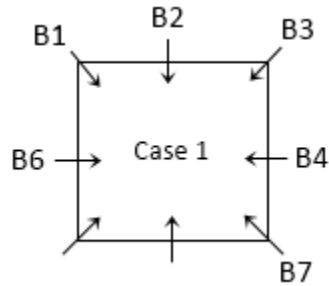


Reference:

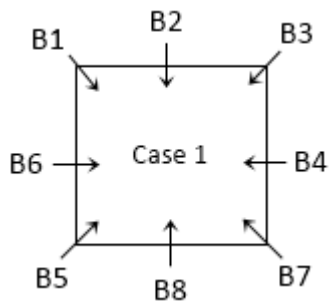
B6 is not placed adjacent to B7.
B1 is on the immediate left of B6.

Inference:

Case-1 fails, as B6 is adjacent to B7 in this case.



As we know that bottles with odd numbers are placed at the corners, thus B5 will be placed at the corner and B8 in the middle of the side.



26) How many bottles are placed between B3 and B8 when counted from the left of latter?

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

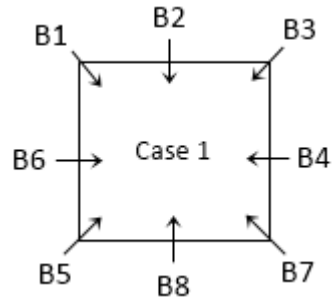
Correct Choice: c

Explanation:

4 bottles are placed between B3 and B8 when counted from the left of latter.

Hence option C is correct.

Final Arrangement:



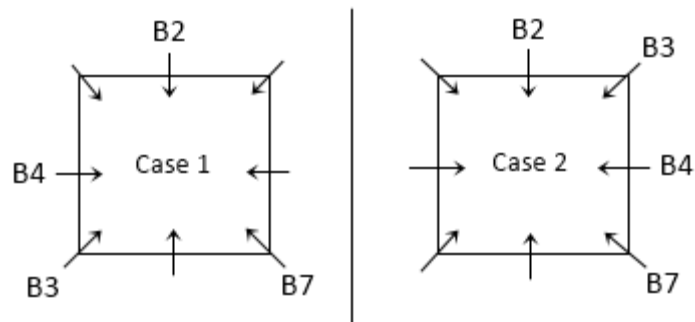
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B2 is third to the right of B7.
 B3 is on the immediate right of B4, which is adjacent to B7.

Inference:

Following two cases occur with the given hints.

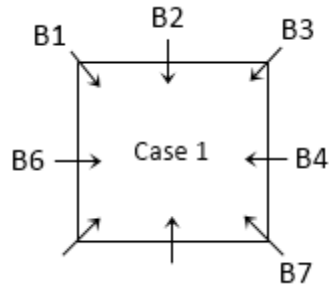


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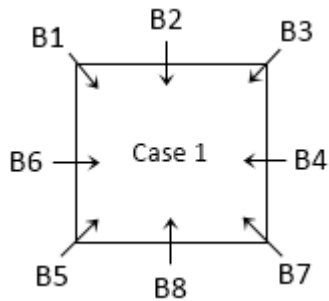
B6 is not placed adjacent to B7.
 B1 is on the immediate left of B6.

Inference:

Case-1 fails, as B6 is adjacent to B7 in this case.



As we know that bottles with odd numbers are placed at the corners, thus B5 will be placed at the corner and B8 in the middle of the side.



27) Which of the following is placed opposite to B2?

- a) B8
- b) B7
- c) B5
- d) B6

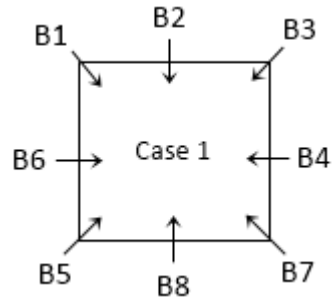
Correct Choice: a

Explanation:

B8 is placed opposite to B2.

Hence option A is correct.

Final Arrangement:



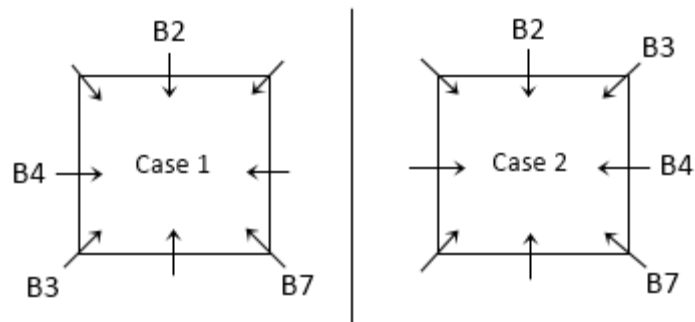
Common Explanation:

Reference:

B2 is third to the right of B7.
 B3 is on the immediate right of B4, which is adjacent to B7.

Inference:

Following two cases occur with the given hints.

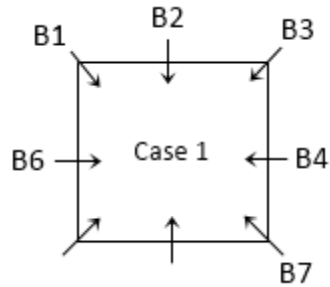


Reference:

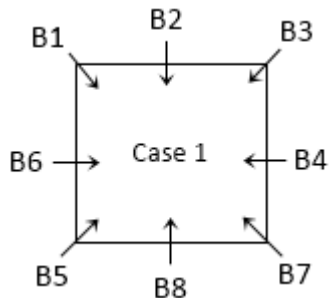
B6 is not placed adjacent to B7.
 B1 is on the immediate left of B6.

Inference:

Case-1 fails, as B6 is adjacent to B7 in this case.



As we know that bottles with odd numbers are placed at the corners, thus B5 will be placed at the corner and B8 in the middle of the side.



28) Which of the following is third to the right of B4?

- a) B3
- b) B1
- c) B7
- d) B5

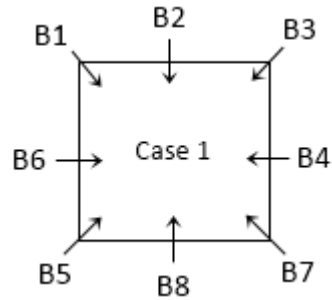
Correct Choice: b

Explanation:

B1 is third to the right of B4.

Hence option B is correct.

Final Arrangement:



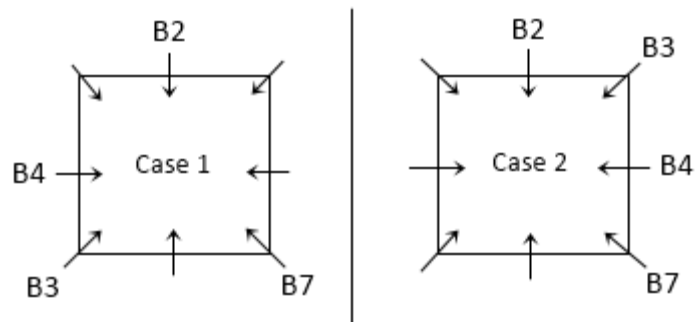
Common Explanation:

Reference:

B2 is third to the right of B7.
 B3 is on the immediate right of B4, which is adjacent to B7.

Inference:

Following two cases occur with the given hints.

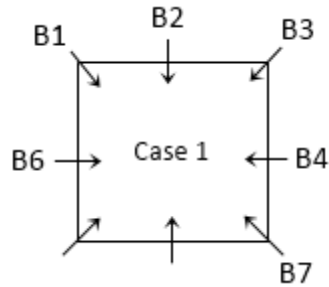


Reference:

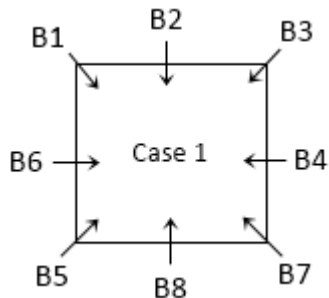
B6 is not placed adjacent to B7.
 B1 is on the immediate left of B6.

Inference:

Case-1 fails, as B6 is adjacent to B7 in this case.



As we know that bottles with odd numbers are placed at the corners, thus B5 will be placed at the corner and B8 in the middle of the side.



29) Which of the following is placed exactly between B6 and B4 when counted from the right of B6?

- a) B2
- b) B8
- c) B7
- d) B5

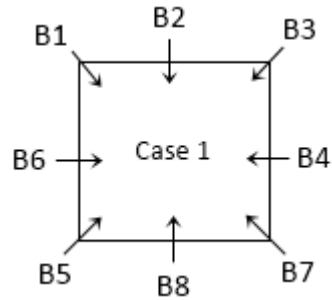
Correct choice: b

Explanation:

B8 is placed exactly between B6 and B4 when counted from the right of B6.

Hence option B is correct.

Final Arrangement:



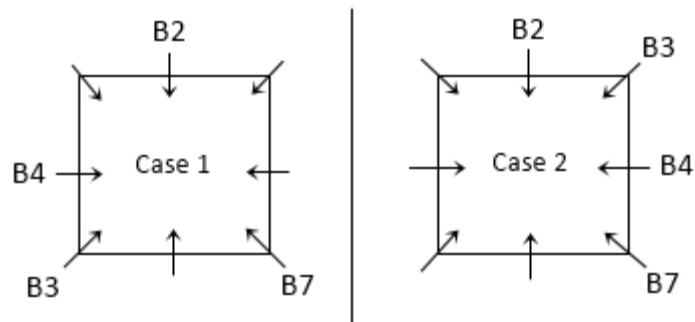
Common Explanation:

Reference:

B2 is third to the right of B7.
 B3 is on the immediate right of B4, which is adjacent to B7.

Inference:

Following two cases occur with the given hints.

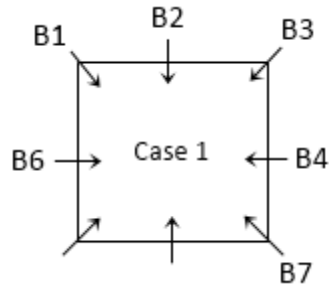


Reference:

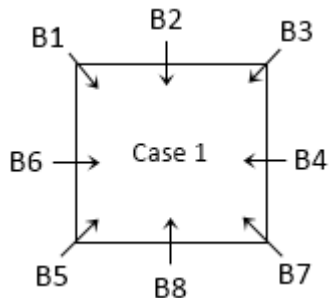
B6 is not placed adjacent to B7.
 B1 is on the immediate left of B6.

Inference:

Case-1 fails, as B6 is adjacent to B7 in this case.



As we know that bottles with odd numbers are placed at the corners, thus B5 will be placed at the corner and B8 in the middle of the side.



Topic – Logical Inequalities

(30-32) If $S > R$, $T \geq U$, $P < R$, $T \leq V$, $V = E$, $E \leq S$ is true, then which of the following conclusions is definitely true?

30)

- a) $E \geq U$
- b) $E \geq P$
- c) $U < V$
- d) $P \leq S$

Correct Choice: a

Explanation:

After combining all the scattered equations, we can make the following expression:

$$U \leq T \leq V = E \leq S > R > P$$

$E \geq U$ is definitely true.

$E \geq P$ can't be definitely true because E and P share opposite signs.

$U < V$ could be true or false as the relationship between them is ' \leq '.

$P \leq S$ can't be definitely true because S and P share opposite signs.

Hence option A is correct.

(30-32) Which of the following is true if $D \leq R < T = K < L = P \leq W < Q > S$ holds definitely true?

31)

- a) $L < Q$
- b) $P > T$
- c) $R < L$
- d) All of the above

Correct Choice: d

Explanation:

With the given expression " $D \leq R < T = K < L = P \leq W < Q > S$ ", it is clear that all the given conclusions are definitely true.

Hence option D is correct.

(30-32) Which of the following set of symbols when filled in the blanks from left to right will make $D > E$ definitely true?

32)

F ___ D ___ S ___ R ___ E

- a) $>, \geq, =, \geq$
- b) $<, \geq, >, =$
- c) $<, <, \geq, >$
- d) $\geq, <, =, \geq$

Correct Choice: b

Explanation:

Let us check each of the options one by one.

Option A – On placing all the signs from left to right in the given blanks, we get the relationship between D and E as $D \geq E$, which is not the desired one, thus option A is incorrect.

$$F > D \geq S = R \geq E$$

Option B - On placing all the signs from left to right in the given blanks, we get the relationship between D and E as $D > E$, which is the required one, thus option B is correct.

$$F < D \geq S > R = E$$

Hence option B is correct.

Topic – Blood Relations

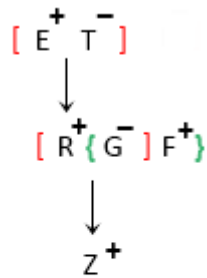
33) How is F related to Z, if R is the son of E. F is the brother of G. T is married to E. E is the father-in-law of G. Z is the grandson of T. T and E has only one child.

- a) Paternal Aunt
- b) Father
- c) Maternal Uncle
- d) Brother

Correct Choice: c

Explanation:

In such a case following relation tree can be observed.



[] → Married Couple
 { } → Siblings
 + → Male
 - → Female

Clearly, F is the maternal uncle of Z.

Hence option C is correct.

Topic – Days Based Puzzle

(34-38) Directions: Read the following information carefully and answer the questions given beside.

Seven cars from A to G of a tour & travel company travelled certain distances during seven days of a week starting from Sunday. Only one car travelled on one particular day. No two cars travelled same distance.

Further it is known that:

- Car B travelled before Car C, a distance more than only two cars.
- Car C travelled immediately after Car D, which travelled the second highest distance.
- Car E travelled the lowest distance on Monday.
- Car F travelled at a gap of two days from Car A, which travelled before Car F.
- Car C did not travel the highest distance.
- Car G travelled immediately after Car F but travelled less than Car B.
- Car D travelled a distance more than that of Car B on Friday.
- Car C travelled a distance more than Car A.

34) How many cars travelled before the car which had travelled the second lowest distance?

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

Correct Choice: d

Explanation:

Car G travelled the second lowest distance, thus 4 cars travelled before G.

Hence option D is correct.

Final Arrangement:

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	F
Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

Common Explanation:

Reference:

Seven cars from A to G of a tour & travel company travelled certain distances during seven days of a week starting from Sunday. Only one car travelled on one particular day. No two cars travelled same distance.

Inference:

We will keep these hints in mind while solving the puzzle, specially the second hint.

Reference:

- Car E travelled the lowest distance on Monday.
- Car D travelled a distance more than that of car B on Friday.
- Car C travelled immediately after Car D, which travelled the second highest distance.

Inference:

With the given hints following table can be prepared.

We will make a mental note of information that Car D travelled a distance more than that of Car B.

Note- The descending order of distance travelled by each car is indifferent of the days.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday		
Monday	E	D
Tuesday		
Wednesday		
Thursday		

Friday	D	
Saturday	C	E

Reference:

- Car B travelled before Car C, a distance more than only two cars.
- Car F travelled at a gap of two days from Car A, which travelled before Car F.
- Car G travelled immediately after Car F but travelled less than Car B.

Inference:

The only way to satisfy the second hint is When car F travelled on Wednesday and accordingly car A travelled on Sunday.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	
Monday	E	D
Tuesday	B	
Wednesday	F	
Thursday	G	B
Friday	D	G
Saturday	C	E

Reference:

- Car C did not travel the highest distance.
- Car C travelled a distance more than Car A.

Inference:

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	
Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

So, the only left out place is filled by the only left car i.e. Car F.

Thus the final arrangement is completed.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	F
Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

35) How many cars travelled after the one which travelled the second highest distance?

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

Correct Choice: a

Explanation:

Car D travelled the second highest distance, thus 1 car travelled after D.

Hence option A is correct.

Final Arrangement:

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	F
Monday	E	D
Tuesday	B	C
Wednesday	F	A

Thursday	G	B
Friday	D	G
Saturday	C	E

Common Explanation:

Reference:

Seven cars from A to G of a tour & travel company travelled certain distances during seven days of a week starting from Sunday. Only one car travelled on one particular day. No two cars travelled same distance.

Inference:

We will keep these hints in mind while solving the puzzle, specially the second hint.

Reference:

- Car E travelled the lowest distance on Monday.
- Car D travelled a distance more than that of car B on Friday.
- Car C travelled immediately after Car D, which travelled the second highest distance.

Inference:

With the given hints following table can be prepared.

We will make a mental note of information that Car D travelled a distance more than that of Car B.

Note- The descending order of distance travelled by each car is indifferent of the days.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday		
Monday	E	D

Tuesday		
Wednesday		
Thursday		
Friday	D	
Saturday	C	E

Reference:

- Car B travelled before Car C, a distance more than only two cars.
- Car F travelled at a gap of two days from Car A, which travelled before Car F.
- Car G travelled immediately after Car F but travelled less than Car B.

Inference:

The only way to satisfy the second hint is When car F travelled on Wednesday and accordingly car A travelled on Sunday.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	
Monday	E	D
Tuesday	B	
Wednesday	F	
Thursday	G	B
Friday	D	G
Saturday	C	E

Reference:

- Car C did not travel the highest distance.
- Car C travelled a distance more than Car A.

Inference:

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	
Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

So, the only left out place is filled by the only left car i.e. Car F.

Thus the final arrangement is completed.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	F
Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

36) If the highest travelled distance is 120 km, then which of the following cars have travelled such distance?

- a) D
- b) A
- c) F
- d) C

Correct Choice: c

Explanation:

Car F travelled the highest distance, so if the highest travelled distance is 120 km then Car F had travelled it.

Hence option C is correct.

Final Arrangement:

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	F
Monday	E	D

Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

Common Explanation:

Reference:

Seven cars from A to G of a tour & travel company travelled certain distances during seven days of a week starting from Sunday. Only one car travelled on one particular day. No two cars travelled same distance.

Inference:

We will keep these hints in mind while solving the puzzle, specially the second hint.

Reference:

- Car E travelled the lowest distance on Monday.
- Car D travelled a distance more than that of car B on Friday.
- Car C travelled immediately after Car D, which travelled the second highest distance.

Inference:

With the given hints following table can be prepared.

We will make a mental note of information that Car D travelled a distance more than that of Car B.

Note- The descending order of distance travelled by each car is indifferent of the days.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
------	--	---

Sunday		
Monday	E	D
Tuesday		
Wednesday		
Thursday		
Friday	D	
Saturday	C	E

Reference:

- Car B travelled before Car C, a distance more than only two cars.
- Car F travelled at a gap of two days from Car A, which travelled before Car F.
- Car G travelled immediately after Car F but travelled less than Car B.

Inference:

The only way to satisfy the second hint is When car F travelled on Wednesday and accordingly car A travelled on Sunday.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	
Monday	E	D
Tuesday	B	
Wednesday	F	
Thursday	G	B
Friday	D	G
Saturday	C	E

Reference:

- Car C did not travel the highest distance.

- Car C travelled a distance more than Car A.

Inference:

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	
Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

So, the only left out place is filled by the only left car i.e. Car F.

Thus the final arrangement is completed.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	F
Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

37) Which of the following cars travelled higher distance than the car that travelled on Wednesday?

- a) D
- b) A
- c) E
- d) None of these

Correct Choice: d

Explanation:

Car F travelled on Wednesday and has travelled the highest distance. Thus no car has travelled higher distance than it.

Hence option D is correct.

Final Arrangement:

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	F

Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

Common Explanation:

Reference:

Seven cars from A to G of a tour & travel company travelled certain distances during seven days of a week starting from Sunday.

Only one car travelled on one particular day.

No two cars travelled same distance.

Inference:

We will keep these hints in mind while solving the puzzle, specially the second hint.

Reference:

- Car E travelled the lowest distance on Monday.
- Car D travelled a distance more than that of car B on Friday.
- Car C travelled immediately after Car D, which travelled the second highest distance.

Inference:

With the given hints following table can be prepared.

We will make a mental note of information that Car D travelled a distance more than that of Car B.

Note- The descending order of distance travelled by each car is indifferent of the days.

Days	Cars (in order of their day of	Cars (Descending order of distance
------	---	---

	travel)	travelled)
Sunday		
Monday	E	D
Tuesday		
Wednesday		
Thursday		
Friday	D	
Saturday	C	E

Reference:

- Car B travelled before Car C, a distance more than only two cars.
- Car F travelled at a gap of two days from Car A, which travelled before Car F.
- Car G travelled immediately after Car F but travelled less than Car B.

Inference:

The only way to satisfy the second hint is When car F travelled on Wednesday and accordingly car A travelled on Sunday.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	
Monday	E	D
Tuesday	B	
Wednesday	F	
Thursday	G	B
Friday	D	G
Saturday	C	E

Reference:

- Car C did not travel the highest distance.
- Car C travelled a distance more than Car A.

Inference:

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	
Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

So, the only left out place is filled by the only left car i.e. Car F.

Thus the final arrangement is completed.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	F
Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

38) If the third highest distance run by a car is 80km, then which of the following cars have run more than 80 km?

- a) G
- b) D
- c) A
- d) E

Correct Choice: b

Explanation:

In the given case, only Car D is the one that has run second highest distance, thus the distance must definitely be more than 80km.

Hence option B is correct.

Final Arrangement:

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	F
Monday	E	D

Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

Common Explanation:

Reference:

Seven cars from A to G of a tour & travel company travelled certain distances during seven days of a week starting from Sunday. Only one car travelled on one particular day. No two cars travelled same distance.

Inference:

We will keep these hints in mind while solving the puzzle, specially the second hint.

Reference:

- Car E travelled the lowest distance on Monday.
- Car D travelled a distance more than that of car B on Friday.
- Car C travelled immediately after Car D, which travelled the second highest distance.

Inference:

With the given hints following table can be prepared.

We will make a mental note of information that Car D travelled a distance more than that of Car B.

Note- The descending order of distance travelled by each car is indifferent of the days.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
------	---	---

Sunday		
Monday	E	D
Tuesday		
Wednesday		
Thursday		
Friday	D	
Saturday	C	E

Reference:

- Car B travelled before Car C, a distance more than only two cars.
- Car F travelled at a gap of two days from Car A, which travelled before Car F.
- Car G travelled immediately after Car F but travelled less than Car B.

Inference:

The only way to satisfy the second hint is When car F travelled on Wednesday and accordingly car A travelled on Sunday.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	
Monday	E	D
Tuesday	B	
Wednesday	F	
Thursday	G	B
Friday	D	G
Saturday	C	E

Reference:

- Car C did not travel the highest distance.

- Car C travelled a distance more than Car A.

Inference:

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	
Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

So, the only left out place is filled by the only left car i.e. Car F.

Thus the final arrangement is completed.

Days	Cars (in order of their day of travel)	Cars (Descending order of distance travelled)
Sunday	A	F
Monday	E	D
Tuesday	B	C
Wednesday	F	A
Thursday	G	B
Friday	D	G
Saturday	C	E

Topic – North – South Sitting Arrangement

(39-43) Directions: Study the following information carefully and answer the question given below.

Eight people are sitting in two parallel rows containing four people each, in such a way that there is an equal distance between adjacent persons. In row 1- L, M, N and O are seated and all of them are facing south. In row 2- T, U, V and W are seated and all of them are facing north. Therefore in the given seating arrangement each member seated in a row faces another member of the other row. V is sitting second to the left of person who faces L. W is an immediate neighbor of V. Only one person is sitting between L and O. The immediate neighbour of N is facing U. M is not sitting at any of the extreme end of the line.

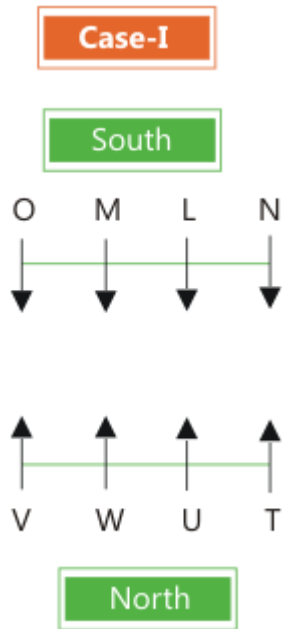
39) Which of the following statements is true regarding M?

- a) L and N are immediate neighbors of M.
- b) M is sitting immediate left of O.
- c) U is facing M.
- d) M is sitting fourth to the right of one of the extreme ends.

Correct Choice: b

Explanation:

Following the final seating arrangement, we can say that M is sitting immediate left of O.



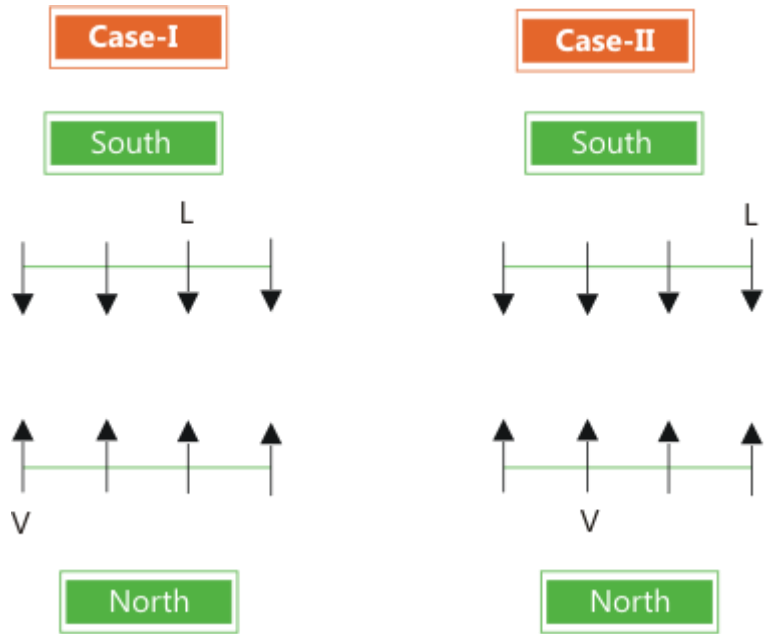
Hence, the correct answer is option B.

Common Explanation:

Reference:

V is sitting second to the left of person who faces L.

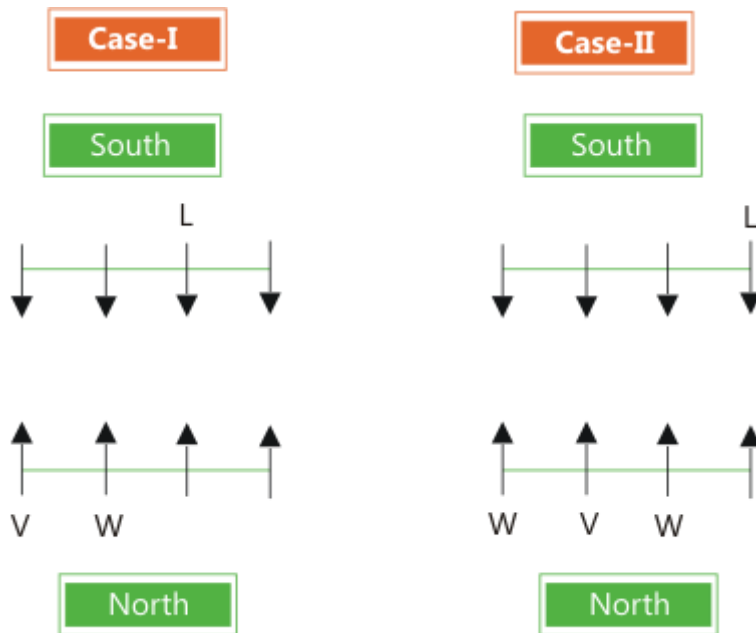
Note: From the above reference, we can say that case 1 and case 2 are possible, in case 1 V will be sitting at extreme left end of the row and L will be sitting at immediate right of extreme left end. In case 2, V will be sitting at immediate right of extreme left end of the row and L will be sitting at extreme left end.



Reference:

W is an immediate neighbor of V.

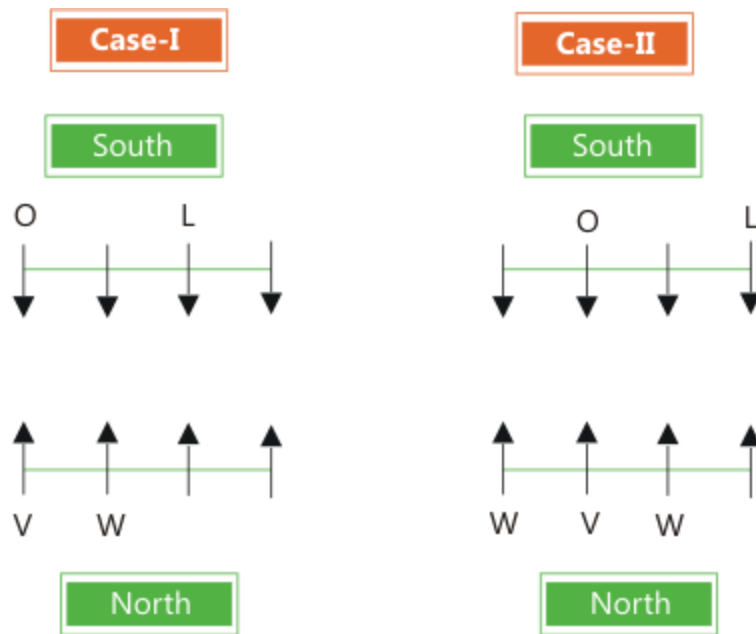
Note: In case 1, W will be sitting at immediate right of V and in case 2, W will be sitting at either immediate left of V or Immediate right of V.



Reference:

Only one person is sitting between L and O.

Note: From the above reference, in case 1, O will be sitting at extreme right end and in case 2, O will be sitting at immediate left of extreme right end.

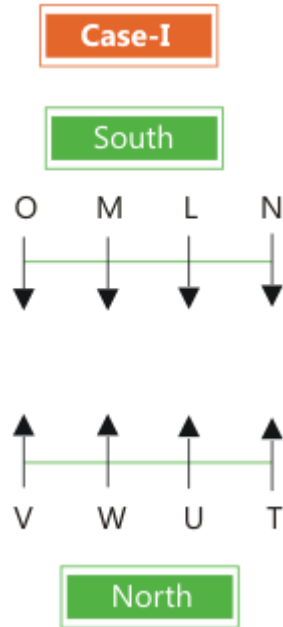


References:

The immediate neighbour of N is facing U.

M is not sitting at any of the extreme end of the line.

Note: Here case 2 fails. Now we can go with case 1 here, as immediate neighbor of N is L and L will be facing U. M is not sitting at any of the extreme end of the line, so it will be sitting between O and L.



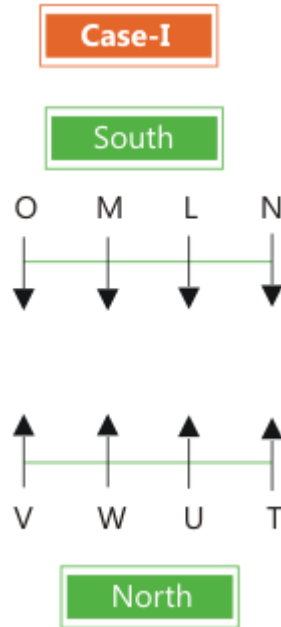
40) Who among the following is facing N?

- a) T
- b) W
- c) U
- d) V

Correct Choice: a

Explanation:

Following the final seating arrangement, we can say that T is facing N.



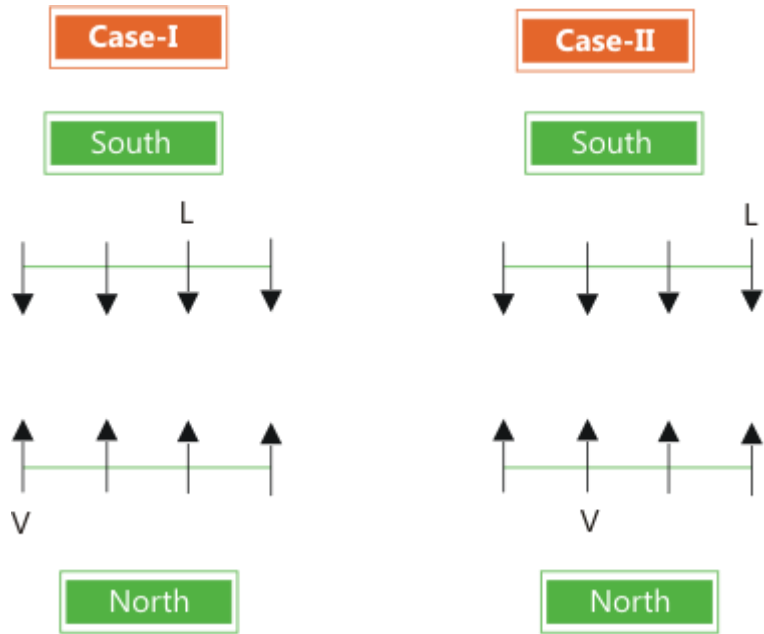
Hence, the correct answer is option A.

Common Explanation:

Reference:

V is sitting second to the left of person who faces L.

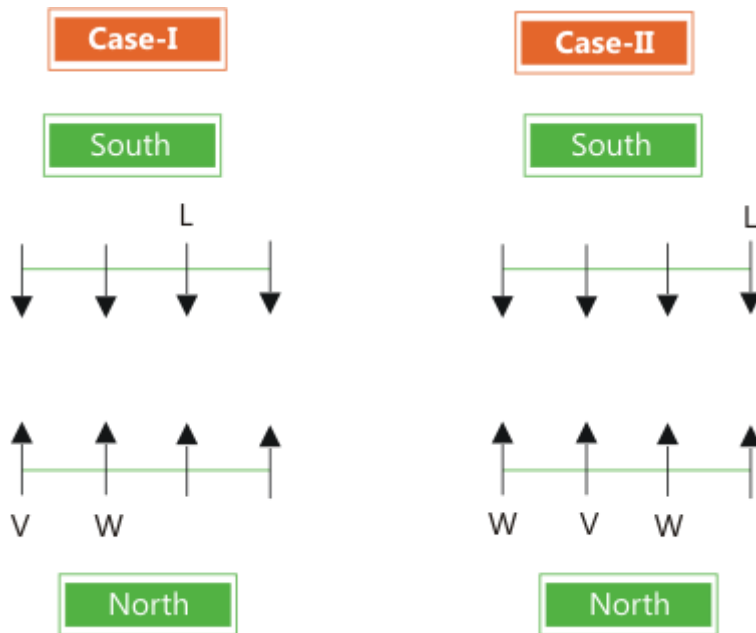
Note: From the above reference, we can say that case 1 and case 2 are possible, in case 1 V will be sitting at extreme left end of the row and L will be sitting at immediate right of extreme left end. In case 2, V will be sitting at immediate right of extreme left end of the row and L will be sitting at extreme left end.



Reference:

W is an immediate neighbor of V.

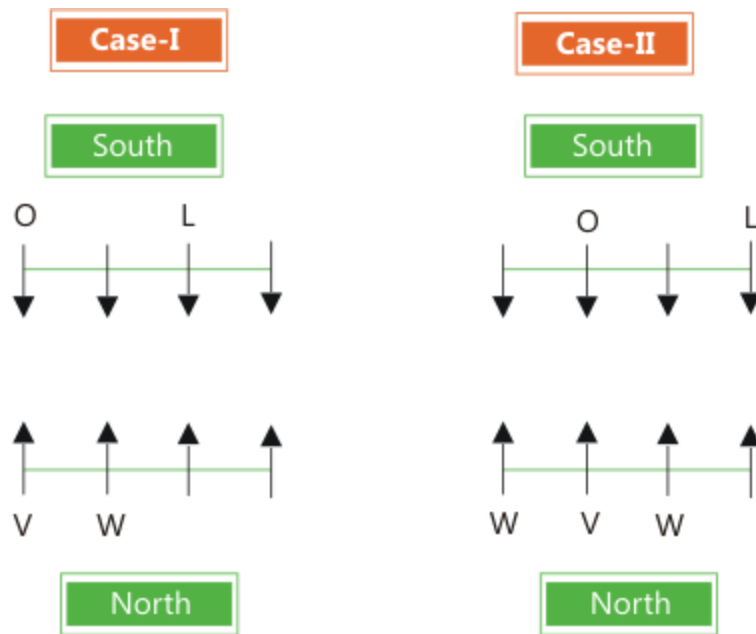
Note: In case 1, W will be sitting at immediate right of V and in case 2, W will be sitting at either immediate left of V or Immediate right of V.



Reference:

Only one person is sitting between L and O.

Note: From the above reference, in case 1, O will be sitting at extreme right end and in case 2, O will be sitting at immediate left of extreme right end.

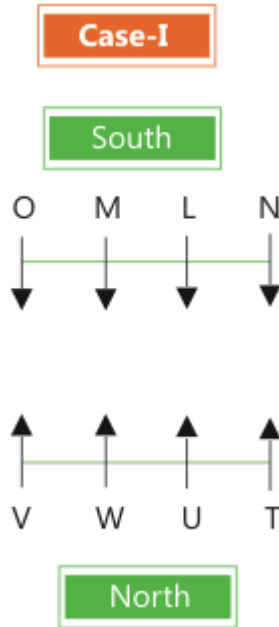


References:

The immediate neighbour of N is facing U.

M is not sitting at any of the extreme end of the line.

Note: Here case 2 fails. Now we can go with case 1 here, as immediate neighbor of N is L and L will be facing U. M is not sitting at any of the extreme end of the line, so it will be sitting between O and L.



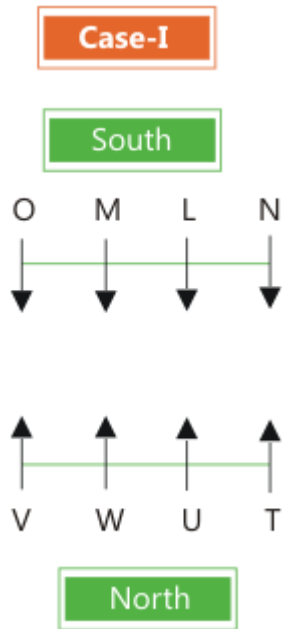
41) Who among the following is sitting second to left of O?

- a) M
- b) L
- c) N
- d) Cannot be determined

Correct Choice: b

Explanation:

Following the final seating arrangement, we can say that L is sitting second to left of O.



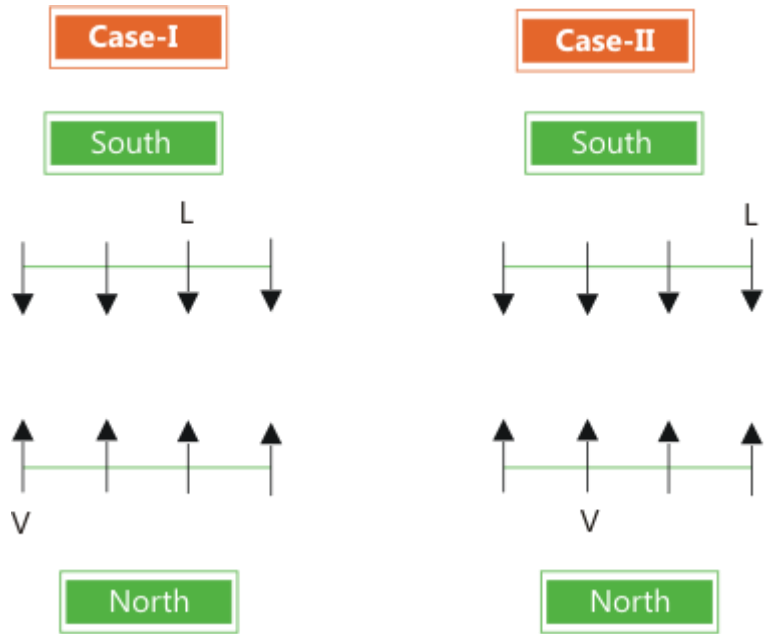
Hence, the correct answer is option B.

Common Explanation:

Reference:

V is sitting second to the left of person who faces L.

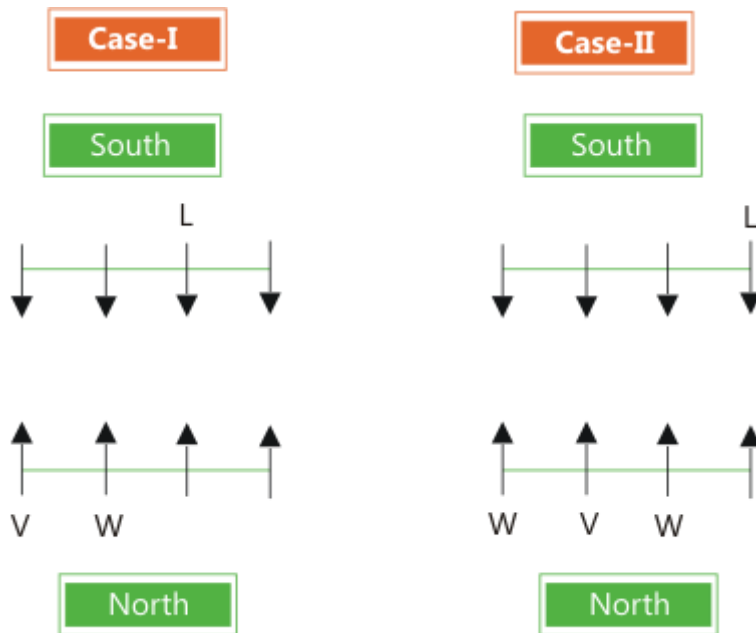
Note: From the above reference, we can say that case 1 and case 2 are possible, in case 1 V will be sitting at extreme left end of the row and L will be sitting at immediate right of extreme left end. In case 2, V will be sitting at immediate right of extreme left end of the row and L will be sitting at extreme left end.



Reference:

W is an immediate neighbor of V.

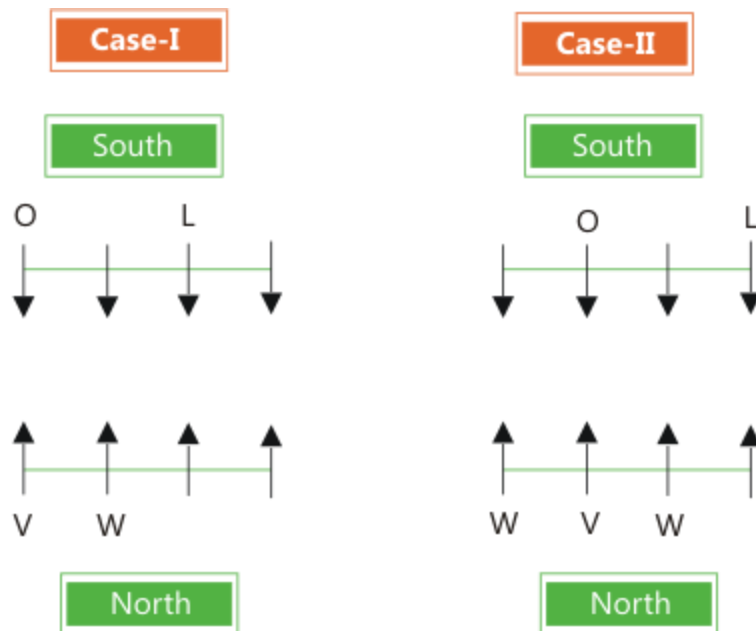
Note: In case 1, W will be sitting at immediate right of V and in case 2, W will be sitting at either immediate left of V or Immediate right of V.



Reference:

Only one person is sitting between L and O.

Note: From the above reference, in case 1, O will be sitting at extreme right end and in case 2, O will be sitting at immediate left of extreme right end.

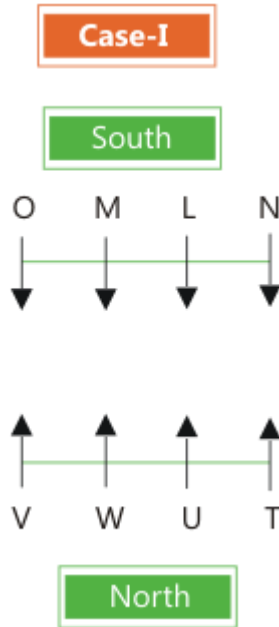


References:

The immediate neighbour of N is facing U.

M is not sitting at any of the extreme end of the line.

Note: Here case 2 fails. Now we can go with case 1 here, as immediate neighbor of N is L and L will be facing U. M is not sitting at any of the extreme end of the line, so it will be sitting between O and L.



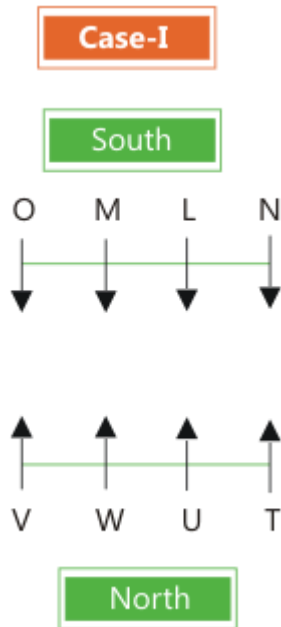
42) Who amongst the following is sitting second to the right of the person who faces O?

- a) T
- b) U
- c) W
- d) V

Correct Choice: b

Explanation:

Following the final seating arrangement, we can say that U is sitting second to the right of person who faces O.



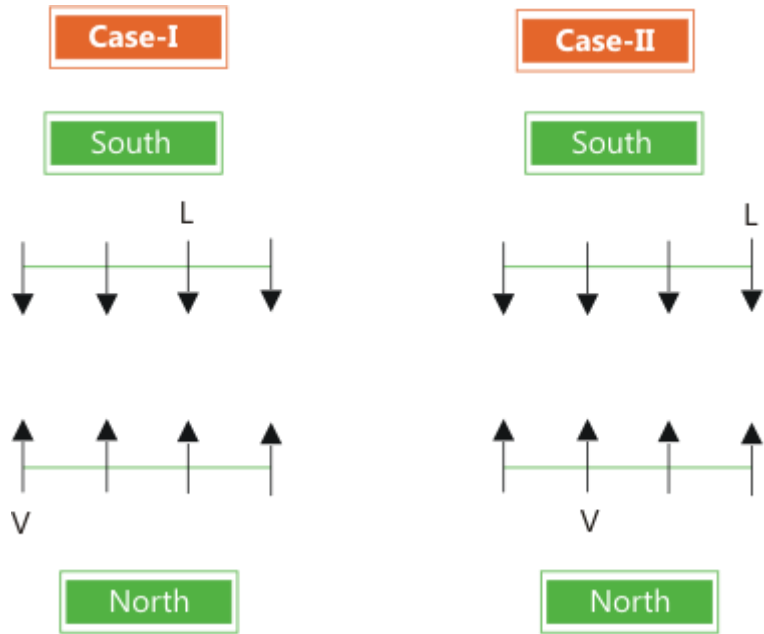
Hence, the correct answer is option B.

Common Explanation:

Reference:

V is sitting second to the left of person who faces L.

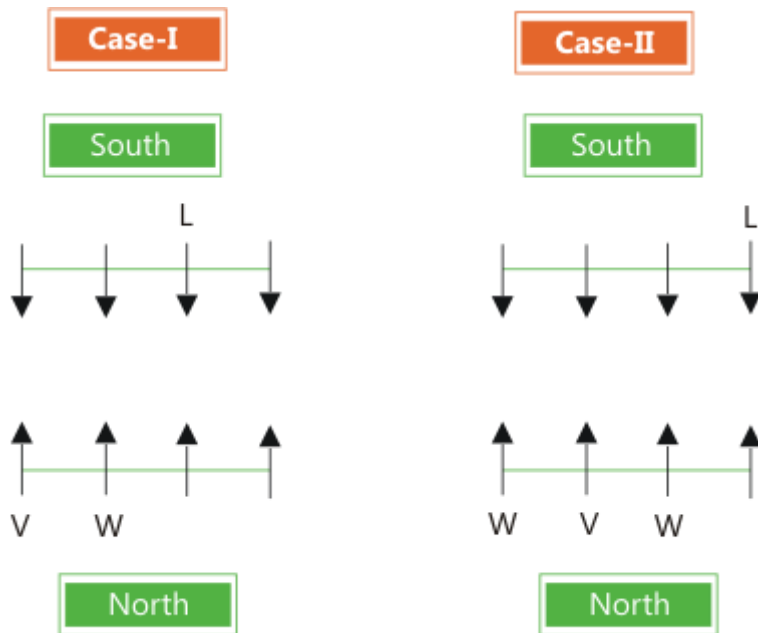
Note: From the above reference, we can say that case 1 and case 2 are possible, in case 1 V will be sitting at extreme left end of the row and L will be sitting at immediate right of extreme left end. In case 2, V will be sitting at immediate right of extreme left end of the row and L will be sitting at extreme left end.



Reference:

W is an immediate neighbor of V.

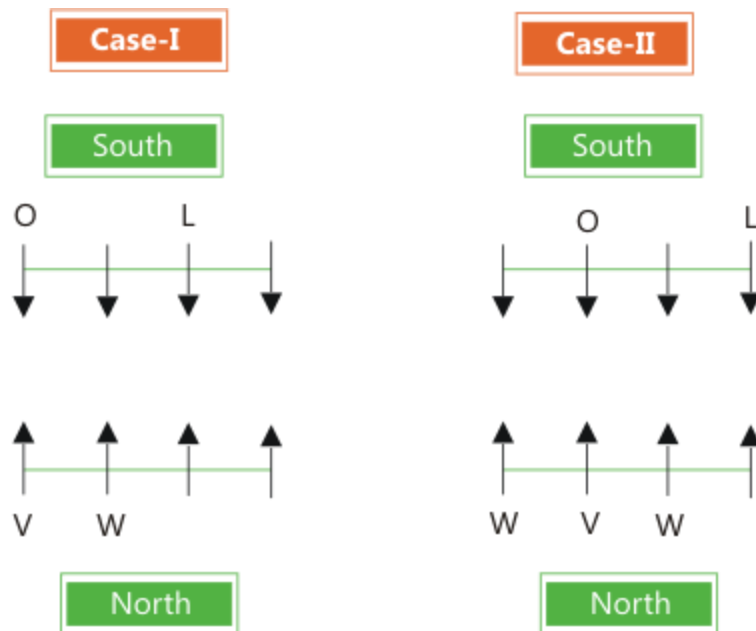
Note: In case 1, W will be sitting at immediate right of V and in case 2, W will be sitting at either immediate left of V or Immediate right of V.



Reference:

Only one person is sitting between L and O.

Note: From the above reference, in case 1, O will be sitting at extreme right end and in case 2, O will be sitting at immediate left of extreme right end.

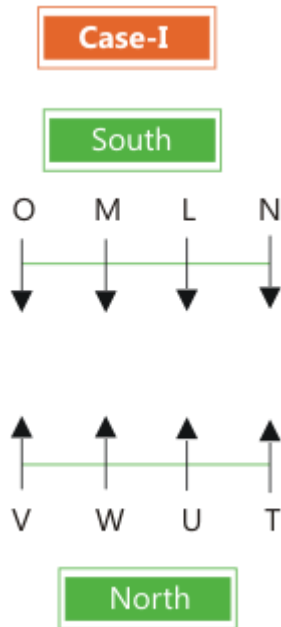


References:

The immediate neighbour of N is facing U.

M is not sitting at any of the extreme end of the line.

Note: Here case 2 fails. Now we can go with case 1 here, as immediate neighbor of N is L and L will be facing U. M is not sitting at any of the extreme end of the line, so it will be sitting between O and L.



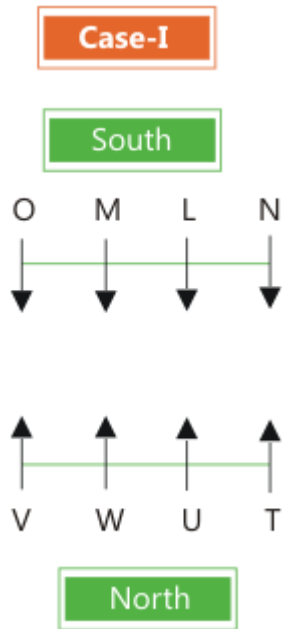
43) Four of the following five pairs are alike in certain way and thus form a group. Which is the one that does not belong to that group?

- a) V, W
- b) U, T
- c) M, O
- d) M, L

Correct Choice: d

Explanation:

Following the final seating arrangement, we can say that in option E first person is immediate right of the second person and in other options first person is sitting immediate left of second person.



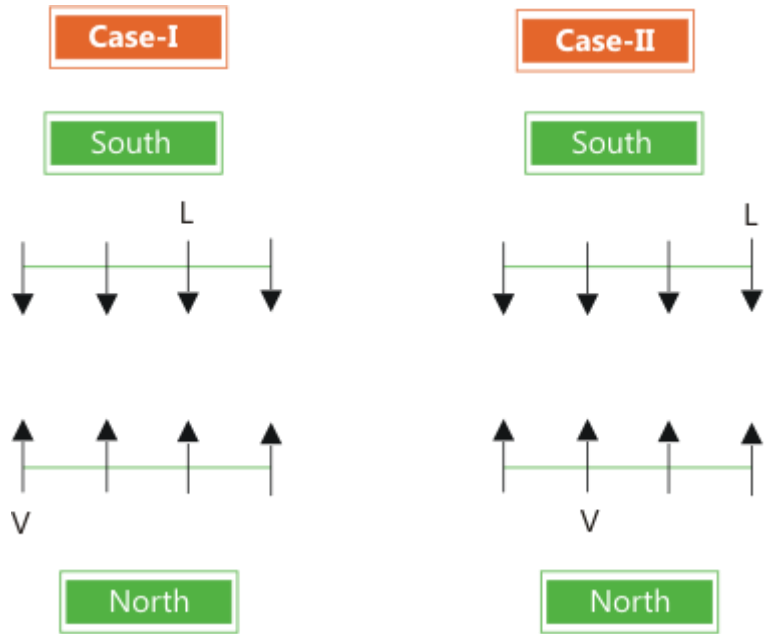
Hence, the correct answer is option D.

Common Explanation:

Reference:

V is sitting second to the left of person who faces L.

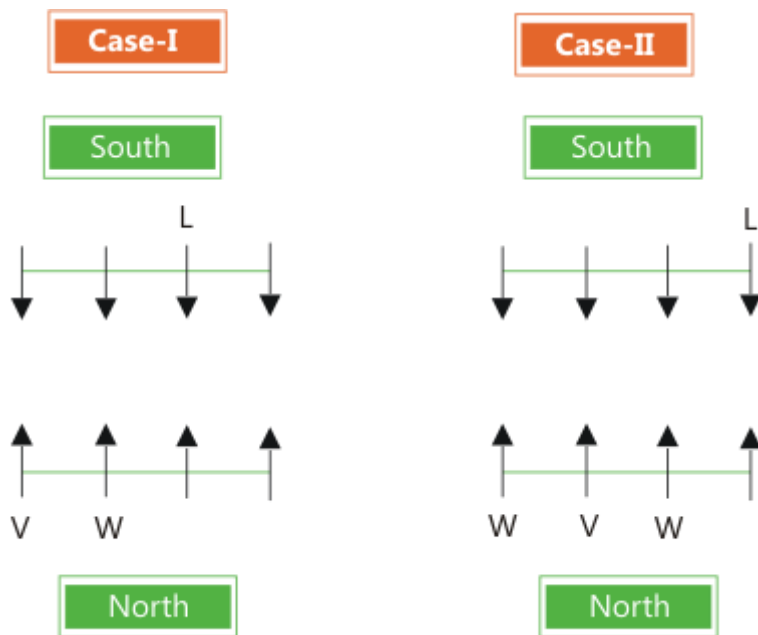
Note: From the above reference, we can say that case 1 and case 2 are possible, in case 1 V will be sitting at extreme left end of the row and L will be sitting at immediate right of extreme left end. In case 2, V will be sitting at immediate right of extreme left end of the row and L will be sitting at extreme left end.



Reference:

W is an immediate neighbor of V.

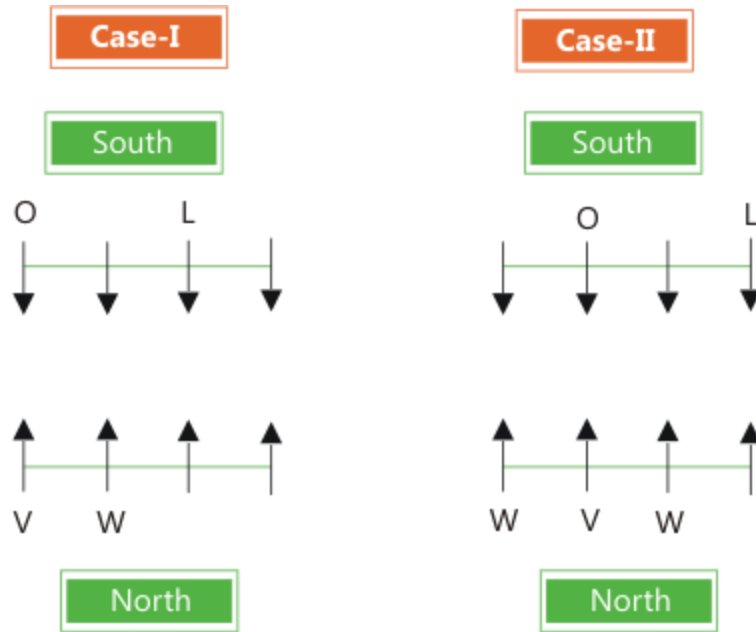
Note: In case 1, W will be sitting at immediate right of V and in case 2, W will be sitting at either immediate left of V or Immediate right of V.



Reference:

Only one person is sitting between L and O.

Note: From the above reference, in case 1, O will be sitting at extreme right end and in case 2, O will be sitting at immediate left of extreme right end.

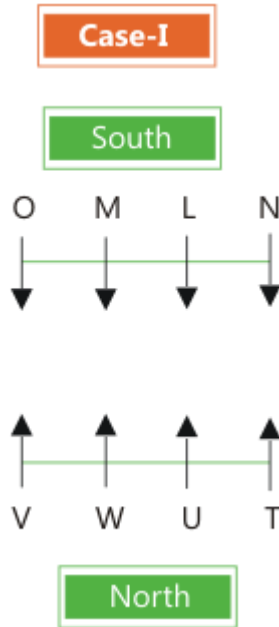


References:

The immediate neighbour of N is facing U.

M is not sitting at any of the extreme end of the line.

Note: Here case 2 fails. Now we can go with case 1 here, as immediate neighbor of N is L and L will be facing U. M is not sitting at any of the extreme end of the line, so it will be sitting between O and L.



Topic – Inserting the Missing Number

44) Select the missing number from the below options.

7	12	9
5	6	4
24	108	?

- a) 56
- b) 45
- c) 65
- d) 75

Correct Choice: c

Explanation:

While following the table columnwise, we get

$$7^2 - 5^2 = 49 - 25 = 24,$$

$$12^2 - 6^2 = 144 - 36 = 108,$$

Similarly,

$$9^2 - 4^2 = 81 - 16 = 65.$$

Hence, option C is correct.

Topic – Odd Man Out

45) Three of the following four letter cluster are alike in a certain way and one is different. Select the odd one out.

- a) NQOP
- b) IOMK
- c) EHFG
- d) VSQR

Correct Choice: b

Explanation:

From above options the NQOP, EHFG, VSQR follows the common pattern:
As you can see below,

NQOP follows:

According to place value of N 3 step increased as per alphabetic order we get Q,

After Q 2 step decreased in place value as per alphabetic order is done we get O,

After O 1 step increased in place value as per alphabetic order is done we get P,

Same combination follows but EHFG, VSQR.

Whereas IOMK does not follow it,

Hence,option B is correct.

Topic – Missing Number Series

46) Which number will replace the question mark (?) in the following series?

124, ? , 143, 154, 166, 179

- a) 134
- b) 144
- c) 137
- d) 133

Correct Choice: d

Explanation:

The above series follows the combination,

$$\begin{aligned}124 + 9 &= 133, \\133 + 10 &= 143, \\143 + 11 &= 154, \\154 + 12 &= 166, \\166 + 13 &= 179.\end{aligned}$$

Hence, option D is correct.

Topic – Alphabet Series

47) Select the combination of when sequentially placed in the given letter series will complete the series.

db_c_b_bacc_d_accb.

- a) accdd
- b) caddd
- c) acdbb
- d) babad

Correct Choice: c

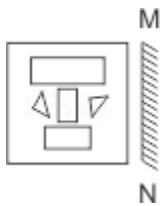
Explanation:

The above series follows the combination dba/ccb/dba/ccb/dba/ccb.

Hence, option C is correct.

Topic – Mirror Image

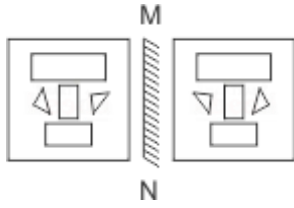
48) Directions: A mirror is placed on the line MN, and then which of the answer figures is the right image of the given question figure?



- a)
- b)
- c)
- d)

Correct Choice: d

Explanation:



Hence, option D is correct.

Topic – Classification of Words

49) Three of the following four words pair are alike in a certain way and one is different. Pick the odd words pair out.

- a) Tamil : Telangana
- b) English : United kingdom
- c) Dutch : Netherlands
- d) Arabic : Egypt

Correct Choice: a

Explanation:

English is the language spoken in contry United Kingdom,

Arabic is the language spoken in country Egypt,

Dutch is the language spoken in Netherland.

Hence, option A is correct.

Topic – Syllogisms

50) Directions: In each of the questions given below three statements are followed by three conclusions numbered I, II and III. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read the entire conclusion and then decided which of the given conclusions logically follows from the given statements, disregarding commonly known facts. Give answer.

Statements:

Some schools are colleges.
All institutes are colleges.
Some houses are schools.

Conclusions:

I. At least some houses are colleges.
II. At least some colleges are institutes.
III. All institutes are house.

- a) Only I follows
- b) Only II and III follow
- c) Only I and II follow
- d) Only II follows

Correct Choice: d

Explanation:

Some houses are schools (I) + Some schools are colleges (I) = I + I = No conclusion can be derived between the classes of 'Houses' and 'Colleges'. Hence, neither conclusion I nor conclusion III follows.

All institutes are colleges (A) – conversion – Some colleges are institutes (I). Hence, only conclusion II follows.

Hence, option D is correct.

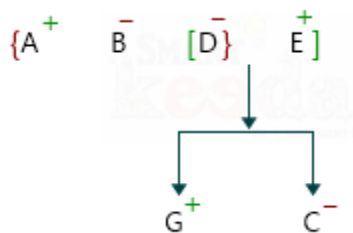
Topic – Blood Relations

51) B is the sister of D, C is the daughter of D, E is the father of C, A is the brother of B, G is the only son of D. How is A related to G?

- a) Uncle
- b) Father
- c) Cousin
- d) Father-in-law

Correct Choice: a

Explanation:



It's evident from the above figure that A is **uncle** of G.

Hence, option A is correct.

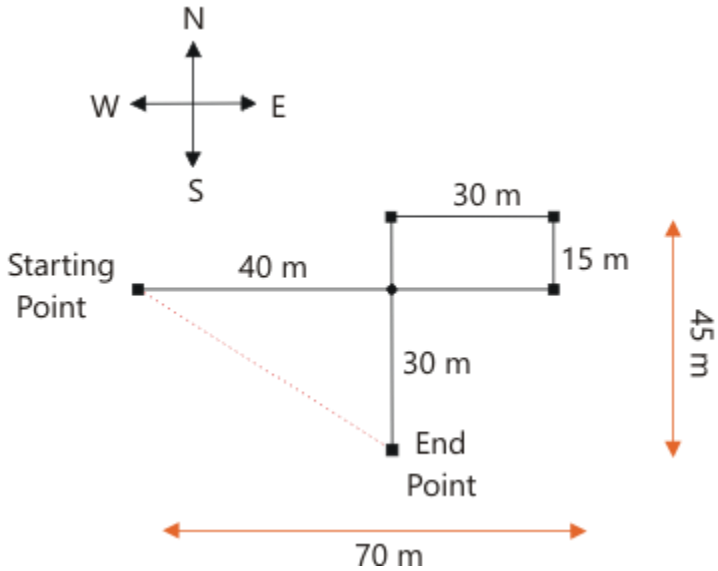
Topic – Distance & Direction

52) A student is looking for his exam center. He moved 70 meters in the east before turning to his left. He moved 15 meters before turning to his left again to look for his exam center but reached his friend's place instead, which is 30 meter from this point. He did not find the exam center there too. From there, he moved 45 meters to the south before reaching to his exam center. What is the straight distance between the exam center and his starting point?

- a) 60 metres
- b) 70 metres
- c) 50 metres
- d) 40 metres

Correct Choice: c

Explanation:



Straight distance between starting point and exam center

$$= 40^2 + 30^2 = 1600 + 900 = 2500 = 50$$

Hence, the distance between starting point and exam center is 50 m.

Hence, option C is correct.

Topic – Logical Venn Diagrams Type -1

53) Which of the following figures best depicts the relationship between thieves, judges and criminals?

- a)
- b)
- c)
- d)

Correct Choice:b

Explanation:

As thieves and criminals belong to one community and judges from another.



Hence option (B) is correct.

Topic – Arithmetical Reasoning

54) The average age of 12 players in a cricket team is the same as it was 18 months ago because an old player has been replaced by a young player now. Find the difference in the age of the older and the younger player.

- a) 21.6
- b) 24
- c) 18
- d) 12

Correct Choice: c

Explanation:

18 months = 1.5 years

Let the sum of the ages of the 12 players, 1.5 years back, be $12x$.

∴ The sum of their ages now (had the old player still been in the team) would have been $12x + (12 \times 1.5) = 12x + 18$

However, the sum of the ages now = sum of the ages 18 months back = $12x$

∴ (Sum of the ages with the old player still in the team) - (Sum of the ages with the new player in the team) = difference between the age of the two players

$$= 12x + 18 - 12x = 18$$

Hence, option C is correct.

Numerical Ability

Topic - Probability

55) A bag contains 6 Red, 5 Blue and 4 Green balls. If two balls are drawn at random what is the probability that both are of same color?

a) $\frac{2}{3}$

b) $\frac{31}{105}$

c) $\frac{13}{21}$

d) $\frac{37}{105}$

Correct Choice: b

Explanation:

Both are either red, blue or green

$$P = \frac{{}^5C_2 + {}^6C_2 + {}^4C_2}{{}^{15}C_2}$$

$$P = \frac{31}{105}$$

Hence, option B is correct.

Topic – Permutations & Combinations

56) A family of a man, wife and their daughter is to be seated with three other bachelors on a round table with six chairs such that the daughter always sits adjacent to at least one of her parents. How many such arrangements are possible?

- a) 75
- b) 60
- c) 72
- d) 84

Correct Choice:d

Explanation:

Total possible arrangements = 5!

Now we calculate the arrangements in which no parent sits adjacent to the daughter

First we seat the daughter, now we seat two out of three bachelors on either side of her seat.

$$\text{Ways} = {}^3C_2 \times 2!$$

Now rest three can be arranged in $3!$ Ways

$$\text{Total ways in which daughter doesn't sit adjacent to her parents} = {}^3C_2 \times 2! \times 3! = 36$$

$$\text{Ways in which daughter sits adjacent to at least one parent} = 5! - 36 = 84$$

Hence, option D is correct.

Topic – Profit & Loss

57) For A and B the ratio of cost price is 4 : 5 and ratio of selling price is 4 : 7. The ratio of total cost price and total selling price is 45 : 44 and the net loss is Rs 20. What is the difference between their selling prices?

- a) Rs. 300
- b) Rs. 240
- c) Rs. 360
- d) Rs. 250

Correct Choice: b

Explanation:

Let the CP of A = $4x$ and B = $5x$ and SP of A = $4y$ and B = $7y$

$$\frac{\text{Total SP}}{\text{Total CP}} = \frac{44}{45}$$

$$\frac{11y}{9x} = \frac{44}{45}$$

$$\frac{y}{x} = \frac{4}{5}$$

$$9x - 11y = 20$$

Solving the above equations we get,

$$x = 100 \text{ and } y = 80$$

$$\text{Difference between their SP} = 7y - 4y = 3y = 3 \times 80 = \text{Rs } 240$$

Hence, option B is correct.

Topic – Simple Interest – Compound Interest

58) A person has Rs. 40000 out of which he puts Rs. 12000 at 10% SI for 3 years and Rs 16000 at 12.5% CI for 2 years and keeps the rest with himself. What is the total amount with him after three years?

- a) Rs. 52240
- b) Rs. 35850
- c) Rs. 42650
- d) Rs. 47850

Correct Choice: d

Explanation:

Amount left with him = $40000 - 16000 - 12000 = 12000$

Amount after 3 years

$$= 12000 + 12000 \left(1 + 3 \times \frac{10}{100}\right) + 16000 \left(1 + \frac{1}{8}\right)^2 = \text{Rs. } 47850$$

Hence, option D is correct.

Topic – Time & Distance

59) A can beat B by 160 m in a 1000 m race. When A and B run towards each other from the opposite ends of track XY, the difference between the distance travelled by them when they meet is 48 m. What is the length (in meter) of the track?

- a) 552
- b) 664
- c) 564
- d) 658

Correct Choice: a

Explanation:

$$\text{Ratio of speed } \frac{A}{B} = \frac{1000}{840} = \frac{25}{21}$$

Let the length of track be X

Difference between distance travelled by them

$$= \frac{(25 - 21) \times X}{25 + 21} = \frac{4X}{46}$$

$$\frac{4X}{46} = 48$$

$$X = 552 \text{ m}$$

Hence, option A is correct.

Topic – Percentages

60) A and B are two candidates in an election and a voter can vote for either A or B. Candidate A gets 66.67% of the votes got by candidate B. If only 90% of eligible voters cast their vote and B gets 64800 more votes than A, how many eligible voters were there?

- a) 326000
- b) 360000
- c) 420000
- d) 540000

Correct Choice: b

Explanation:

Let the total eligible voters = 100k

Votes cast = 90k

Ratio of votes got, $\frac{A}{B} = \frac{2}{3}$

Difference between the votes of A and B = $\frac{1 \times 90k}{5} = 18 \text{ k}$

18k = 64800

So 100k = 360000

Hence, option B is correct.

Topic – Time & Work

61) A, B and C can complete a work in 20, 30 and 25 days respectively. A and B work together for 8 days and C joins them on every second day, then D alone works for two days and the remaining work is done by C alone in 1 day. In how many days D alone can complete 80% of the work?

- a) 16 days
- b) 15 days
- c) 18 days
- d) 12 days

Correct Choice: d

Explanation:

Let the total work = 300k

$$\text{Efficiency of A} = \frac{300k}{20} = 15k,$$

$$B = \frac{300k}{30} = 10k$$

$$\text{and C} = \frac{300k}{25} = 12k$$

Let efficiency of D = Z

$$\text{Work done by A and B} = 15k + 10k = 25k$$

$$\text{Work done by A, B and C} = 15k + 10k + 12k = 37k$$

Work done in 8 days (by A and B joined by C on every second day)

$$= \frac{8}{2} \times (25 + 37) = 248k$$

$$\text{Work done by C alone in 1 day} = 12k$$

$$\text{Work done by D in 2 days} = 300k - 248k - 12k = 40k$$

$$\text{Per day work of D} = 20k$$

Time taken by D to do 80% of work

$$= \frac{8}{10} \times \frac{300}{20} = 12 \text{ days}$$

Hence, option d is correct.

Topic – Pipes & Cisterns

62) Pipe A and B can fill a tank in 16 hrs and 32 hrs respectively while C alone can empty it in 20 hrs. When the tank is empty Pipe A and B are opened, '2x' hrs later A is closed and C is opened, 'x' hrs later B is closed and A is opened and '6x + 2' hrs later tank is full. What is the total time(in hrs) taken to fill the tank?

- a) 38
- b) 22
- c) 42
- d) 35

Correct Choice: a

Explanation:

Let tank capacity = 160k

$$\text{Efficiency of A} = \frac{160k}{16} = 10k,$$

$$B = \frac{160k}{32} = 5k \text{ and } C = \frac{160k}{20} = 8k$$

$$(10k + 5k) \times 2x + (5k - 8k) \times x + (10k - 8k) \times (6x + 2) = 160k$$

$$x = 4$$

$$\text{Total time} = 2x + x + 6x + 2 = 9x + 2 = 38 \text{ hrs}$$

Hence, option A is correct.

Topic – Volumes

63) A tent has a cylindrical base and conical top. The height of tent is 61m and that of cylindrical portion is 40m the radius of tent is 28 m. What is the total area of cloth required to make the tent?

- a) 10450 m²
- b) 12540 m²
- c) 10120 m²
- d) 9750 m²

Correct Choice: c

Explanation:

Height of the cone = 61 – 40 = 21 m and radius of cone = 28 m

So, Slant height of cone = $\sqrt{(21^2 + 28^2)} = 35$ m

Total surface area = $2\pi rh + \pi rl$

$$= \frac{22}{7} \times 28 \times (2 \times 40 + 35) = 10120 \text{ m}^2$$

Hence, option C is correct.

Topic – Areas

64) A prism has a triangular base with sides 30cm, 34cm and 16cm. If the volume of the prism is 2960 cm², what is the height (in cm) of the prism?

- a) 14.5
- b) $12\frac{1}{3}$
- c) 15
- d) 9.5

Correct Choice: b

Explanation:

$$\text{As } 34^2 = 30^2 + 16^2$$

Area of the base of the prism

$$= \frac{1}{2} \times 30 \times 16 = 240 \text{ cm}^2$$

$$\text{Volume of the prism} = 240 \times h = 2960$$

$$H = \frac{2960}{240} = 12\frac{1}{3} \text{ cm}$$

Hence, option B is correct.

Topic – Averages

65) The average weight of a class of N students is 47kg. If 8 students with average weight of 53kg leave the class and 3 new students with average weight 56kg join the class, the average weight of the class decreases by 0.6kg. What is the number of students in class now?

- a) 40
- b) 42
- c) 37
- d) 35

Correct Choice: d

Explanation:

Total weight initially = $N \times 47$

Total weight of class now = $(N - 8 + 3) \times (47 - 0.6) = (N - 5)46.4$

$N \times 47 - 8 \times 53 + 3 \times 56 = (N - 5) \times (46.4)$

$N = 40$

Number of students in the class now = $N - 5$

$= 40 - 5 = 35$

Hence, option D is correct.

Topic – Geometry (Triangles)

66) A triangle has sides 39 cm, 80 cm and 89 cm, what is circumference (in cm) of its incircle?

- a) 15π
- b) 30π
- c) 64π
- d) 24π

Correct Choice: b

Explanation:

As we can see, $39^2 + 80^2 = 89^2$

So, area of triangle = $\frac{1}{2} \times 39 \times 80 = 1560 \text{ cm}^2$

Perimeter of triangle = $(39 + 80 + 89) = 208 \text{ cm}$

Semi perimeter, $s = \frac{208}{2} = 104 \text{ cm}$

Inradius = $\frac{A}{s} = \frac{1560}{104} = 15$

Circumference = $2\pi r = 2\pi (15) = 30\pi$

Hence, option B is correct.

Topic – Percentages

67) In a class, 37.5% of the students are Girls and rest are boys. If 60% of the girls are present and 80% of the boys are present, then what percent of the total number of students in the class are absent?

- a) 32.5%
- b) 28.6%
- c) 27.5%
- d) 31.5%

Correct Choice: c

Explanation:

Let the total number of students = 80k

Girls = 37.5% (80k) = 30k and Boys = 50k

Girls absent = 40%(30k) = 12k

Boys absent = 20%(50k) = 10k

Total students absent = 10k + 12k = 22k

$$\text{Reqd. \%} = \frac{22k}{80k} \times 100 = 27.5\%$$

Hence, option C is correct.

Topic – Problems on Numbers

68) When a two-digit number is multiplied by the sum of its digits, the product is 913. When the number obtained by interchanging its digits is multiplied by the sum of the digits, the result is 418. The difference of the digits of the given number is:

- a) 4
- b) 6
- c) 7
- d) 5

Correct Choice: d

Explanation:

Let the number be ab , numerical value = $10a + b$

$$(10a + b)(a + b) = 913 \text{ ----- (1)}$$

When the digits are interchanged number = $ba = 10b + a$

$$(10b + a)(a + b) = 418 \text{ ----- (2)}$$

By doing $1 - 2$

$$(a + b)(9a - 9b) = 913 - 418$$

$$(a - b)(a + b) = \frac{495}{9}$$

$$(a + b)(a - b) = 55$$

$$a + b = 11 \text{ and } a - b = 5$$

Required difference = 5

Hence, option D is correct.

Topic – Partnership

69) A, B and C start a business. A invest 40% more than C, who invests 66.67% more than B. If the total profit at the end of the year is Rs.244500, what is the share (in Rs.) of A in the profit?

- a) 124500
- b) 114100
- c) 142625
- d) 130400

Correct Choice: b

Explanation:

$$\frac{A}{C} = \frac{140}{100} = \frac{7}{5}$$

$$\frac{C}{B} = \frac{5}{3}$$

$$A : B : C = 7 : 3 : 5$$

Let the profit share of A = 7k, B = 3k and C = 5k

Total profit = 15k

$$\text{Profit share of A} = \frac{7k}{15k} \times 244500$$

$$= \text{Rs. } 114100$$

Hence, option B is correct

Topic – HCF & LCM of Numbers

70) The HCF of two numbers is 35 and their LCM is 299 times the HCF. If one of the numbers lies between 400 and 500, the sum of the digits of the other number is :

- a) 13
- b) 15
- c) 14
- d) 17

Correct Choice : a

Explanation:

Let the numbers be $35a$ and $35b$

$$\text{LCM} = 299 \times 35$$

$$\text{HCF} \times \text{LCM} = \text{Product of digits}$$

$$299 \times 35 \times 35 = 35a \times 35b$$

$$a \times b = 299$$

$$a \times b = 13 \times 23$$

$$a = 13 \text{ and } b = 23$$

$$35a = 455 \text{ and } 35b = 805$$

$35a$ lies between 400 and 500

$$\text{Sum of the digits odd } 805 = 8 + 0 + 5 = 13$$

Hence, option A is correct

Topic – Percentages

71) If 55% of a number is 224 more than 20% of the number, then 35% of the number is less than 62.5% of the number by:

- a) 164
- b) 166
- c) 182
- d) 176

Correct Choice: d

Explanation:

Let the number be $100k$

$$55\%(100k) - 20\%(100k) = 224$$

$$35k = 224$$

$$100k = 640$$

$$35\% (640) = 224$$

$$62.5\% (640) = 400$$

$$\text{Required difference} = 400 - 224 = 176$$

Hence, option D is correct.

Topic – Mixtures & Allegations

72) Alloy A contains copper and zinc in the ratio of 7 : 2 and alloy B contains copper and zinc in the ratio of 5 : 3. A and B are taken in the ratio of 6 : 5 and melted to form a new alloy. The percentage of copper in the new alloy is:

- a) 69.44%
- b) 70.83%
- c) 65.67%
- d) 72.45%

Correct Choice: b

Explanation:

$$\frac{\text{Copper}}{\text{Total in A}} = \frac{7}{9}$$

$$\frac{\text{Copper}}{\text{Total in alloy B}} = \frac{5}{8}$$

$$\frac{\text{Copper}}{\text{Total in the mixture}} = \frac{(6 \times 7/9 + 5 \times 5/8)}{(6 + 5)} = \frac{17}{24}$$

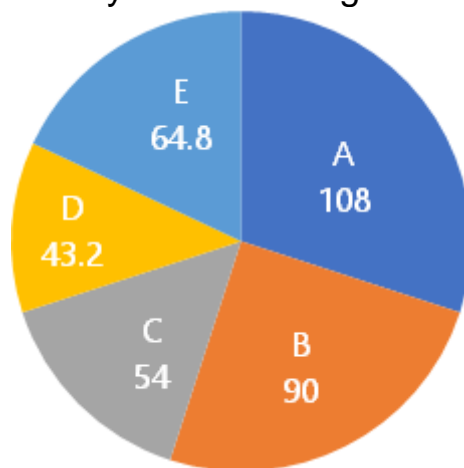
$$\text{Reqd. \%} = \frac{17}{24} \times 100 = 70.83\%$$

Hence, option B is correct.

Topic – Data Interpretation (Pie Chart on Degrees)

(73-75)Directions : Study the following pie chart carefully and answer the questions given beside.

The chart given below shows the breakup of mobile phones sold by five stores A, B, C, D and E in May. The values given are in degrees.



73) The total number of phones sold by E in May is 4500 and A sold 25% more phones in June as compared to May. What is the number of phones sold by A in June?

- a) 9325
- b) 9250
- c) 9375
- d) 9750

Correct Choice: c

Explanation:

Total number of phones sold by all five in May

$$= 4500 \times \frac{360^\circ}{64.8^\circ} = 25000$$

$$\text{Phones sold by A in May} = \frac{108^\circ}{360^\circ} \times (25000) = 7500$$

$$\text{Phones sold by A in June} = 125\% (7500) = 9375$$

Hence, option C is correct

74) B sells 20% more phones in June than in May and the phones sold by B in June is 25% of the total phones sold in that month. The phones sold in June are how much percent more than the phones sold in May?

- a) 12.5%
- b) 10%
- c) 25%
- d) 20%

Correct Choice: d

Explanation:

Let the phones sold in May = 100k

$$\text{So, phones sold by B} = \frac{90^\circ}{360^\circ} \times 100k = 25k$$

$$\text{Phones sold by B in June} = 25k \times 1.2 = 30k$$

$$\text{Total phones sold in June} = 30k \times \frac{100}{25} = 120k$$

$$\text{Reqd. \%} = \frac{120k - 100k}{100k} \times 100 = 20\%$$

Hence, option D is correct

75) The average number of mobile phones sold in May by C, D and E is 12600, what is the difference between the phones sold by A and B?

- a) 4300
- b) 6300
- c) 4200
- d) 4800

Correct Choice: c

Explanation:

Let the total phones sold in May = 100k

Average phones sold by C, D and E

$$= \frac{64.8^\circ + 43.2^\circ + 54^\circ}{3} = 54^\circ$$

Difference between the number of phones sold by A and B = $108^\circ - 90^\circ = 18^\circ$

54° corresponds to 12600

18° corresponds to 4200

Hence, option C is correct .

Topic – Problems on Ages

76) 6 years from now ratio of age of A and B will be 4 : 5 and the ratio of age of B and C, 4 years ago, was 7 : 8. If B is 5 years younger to C, what is the present average age of A and C?

- a) 42
- b) 35
- c) 37
- d) 39

Correct Choice: b

Explanation:

Let the age of A, 6 years from now = $4k$, so age of B 6 years from now = $5k$

Present age of B = $5k - 6$

Age of B 4 years ago = $5k - 10$

Ratio of age of B and C 4 years ago = 7 : 8

So, age of C 4 years ago = $\frac{8(5k - 10)}{7}$

Present age of C = $\frac{8(5k - 10)}{7} + 4 = \frac{(40k - 52)}{7}$

B is 5 years younger to C

$$5k - 6 + 5 = \frac{(40k - 52)}{7}$$

$$k = 9$$

Present age of A = $4 \times 9 - 6 = 30$,

$$C = \frac{(40 \times 9 - 52)}{7} = 44$$

Present average age of A and C = $\frac{(30 + 44)}{2} = 37$

Hence, option C is correct.

Topic – Ratios & Proportions

77) 6/11 employees of a company are males and the rest are females. If 11/18 of male employees and 4/9 of female employees are temporary and the total number of permanent employees is 322, then 13/21 of the total number of employees exceed the total number of female employees by:

- a) 114
- b) 98
- c) 124
- d) 118

Correct Choice: a

Explanation:

(Note: As we see fractions like 6/11, 11/18 and 4/9 we will assume the total number of employees to be $11 \times 18k$ to avoid fractions)

Let the total number of employees be $198k$

$$\text{Males} = \frac{6}{11} \times 198 = 108k$$

$$\text{Females} = 198k - 108k = 90k$$

$$\text{Temporary Male employees} = \frac{11}{18} \rightarrow \text{Permanent} = \frac{7}{18}$$

$$\text{Permanent male employees} = \frac{7}{18} \times 108 = 42k$$

$$\text{Temporary female employees} = \frac{4}{9} \rightarrow \text{Permanent} = \frac{5}{9}$$

$$\text{Permanent female employees} = \frac{5}{9} \times 90k = 50k$$

$$\text{Total permanent employees} = 50k + 42k = 92k$$

$$92k = 322$$

$$k = 3.5$$

$$\text{Total employees} = 198 \times 3.5 = 693$$

$$\text{Total female employees} = 90 \times 3.5 = 315$$

$$\frac{13}{21} \text{ of total employees} = \frac{13}{21} \times 693 = 429$$

$$\text{Required difference} = 429 - 315 = 114$$

Hence, option A is correct

Topic – Compound Interest

78) A loan has to be returned in two equal yearly installments each of Rs 36450. If the interest is compounded annually at the rate of 8% p.a., what is the total interest paid?

- a) Rs. 8400
- b) Rs. 7600
- c) Rs. 10816
- d) Rs. 7900

Correct Choice: d

Explanation:

Let the Principal be P

$$\left(\frac{P \times 108}{100} - 36450\right) \times \frac{108}{100} = 36450$$

$$P = 36450 \left[\left(\frac{100}{108}\right) + \left(\frac{100}{108}\right)^2 \right]$$

$$P = 65000$$

$$\text{Interest paid} = 2 \times 36450 - 65000 = \text{Rs. } 7900$$

Hence, option D is correct.

Topic – LCM & HCF of Numbers

79) What is the total number of factors of 8800?

- a) 27
- b) 54
- c) 36
- d) 18

Correct Choice: c

Explanation:

By prime factorization

$$8800 = 11^1 \times 2^5 \times 5^2$$

$$\text{Total number of factors} = (1 + 1) (5 + 1) (2 + 1) = 36$$

Hence, option C is correct.

Topic – Geometry

80) The graphs of the equations $3x + 2y - 27 = 0$ and $5x - 3y = 7$ intersect at $P(x_1, y_1)$ and the graph of the equation $3x - 2y - 18 = 0$ intersect the y -axis at $Q(x_2, y_2)$. What is the value of $(x_2 - x_1 + y_2 - y_1)$?

- a) -12
- b) -5
- c) -2
- d) -20

Correct Choice: d

Explanation:

$$3x + 2y - 27 = 0 \rightarrow 9x + 6y = 81 \text{ ----- (1)}$$

$$5x - 3y = 7 \rightarrow 10x - 6y = 14 \text{ ----- (2)}$$

Using 1 and 2 we get, $x_1 = 5$ and $y_1 = 6$

$$3x - 2y - 18 = 0$$

It intersects y -axis at point $Q(x_2, y_2)$

On y axis, $x = 0$

$$3 \times 0 - 2y - 18 = 0$$

$$y_2 = -9$$

$$(x_2 - x_1 + y_2 - y_1) = (0 - 5 - 9 - 6) = -20$$

Hence, option D is correct