BANKING
REASONING

HAND
WRITTEN
NOTES

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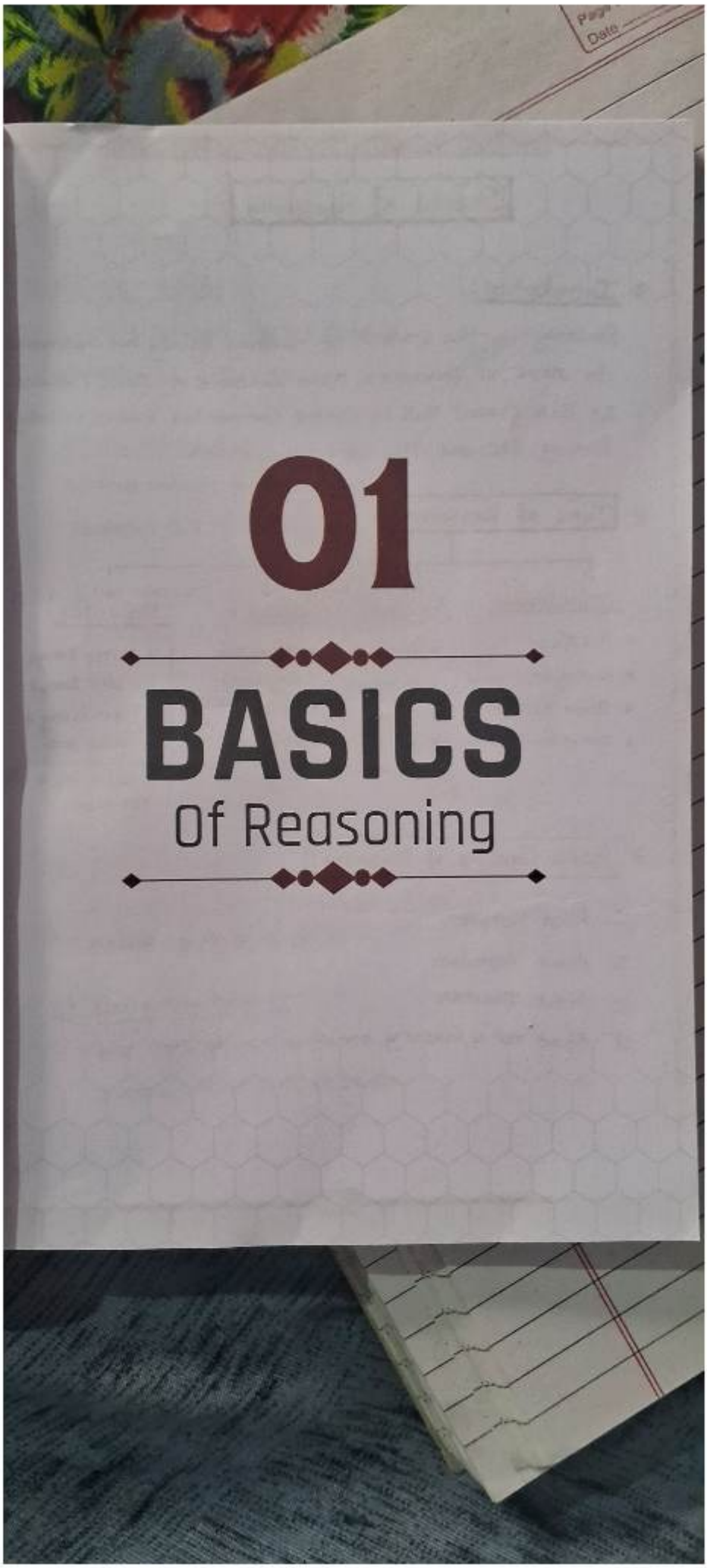


01

BASICS

Of Reasoning

Basics of Reasoning

Introduction:

Reasoning is the process of thinking logically and Systematically to arrive at Conclusions, make decisions or Solve Problems. It is a crucial skill in various Competitive exams, including Banking, SSC and other Competitive exams.

* Types of Reasoning:

* Basic Concepts of Reasoning:

I. About Numbers
II. About Alphabets
III. About Direction
IV. About verbal Reasoning

I. About Numbers:

1) Natural numbers

Counting numbers starting from 1.

Example: 1, 2, 3, 4, 5, ...

2) Whole numbers

Natural numbers including zero (0).

Example: 0, 1, 2, 3, 4, 5, ...

3) Even numbers:

Divisible by 2.

Example: 2, 4, 6, 8, 10, ...

4) Odd numbers:

Not divisible by 2.

Example: 1, 3, 5, 7, 9, ...

5) Prime numbers

Has exactly two factors. (1 and itself)

Example: 2, 3, 5, 7, 11 etc.

6) Composite numbers

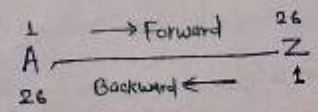
Has more than two factors.

Example: 4, 6, 8, 9, 10, 12 etc.

II. About Alphabets

- A, B, C ..... X Y Z.
- Place value of alphabets should be clear.
- Place value of alphabets

Forward Backward



- To memorize the alphabet's place value, we have two approaches:

I.

5	10	15	20	25
E	J	O	T	Y

3	6	9	12	15	18	21	24
C	F	I	L	O	R	U	X

II Visualization / Rhymings / Connectors

- A to E tak toh yaad hoga hi aapko.
  Baat shuru karte hain G se.

 → Seven (7)

 → Six

 → Eight (8)

 → Nine

K → Kings 11 Punjab. [Connect with famous things]

L → Twelve → Twel (12) [Rhyming]

M → 13 [1st letter in the alphabetical Series Seem 3]

W → 23 [2nd letter in the alphabetical Series Seems 3]

N → N → Roman 4 which helps to think 14

P / b → 16 → Water image of P is 6 (six) → Sixteen.

Q → Q → Seventeen (17)
→ Seven

R → ɾ → Smaller ɾ Seems like 8 → 18

S T → 20
19 → 20

U V → Ultraviolet
21 22

X Y Z
24 25 26

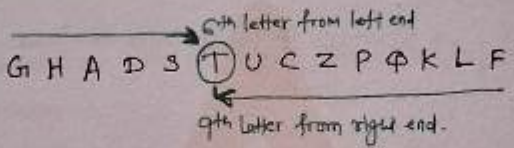
* How to remember Backward Rank of Alphabets:

1	2	3	4	→ F.R	22	23	24	25	26
A	B	C	D	.....	V	W	X	Y	Z
26	25	24	23	B.R ←	5	4	3	2	1

Sum of the place value of Forward + Backward rank=?

Forward Place value + Backward Place value = 27

Concept Behind it



Total no. of letter in the Series = 14

But T = 6th from left end

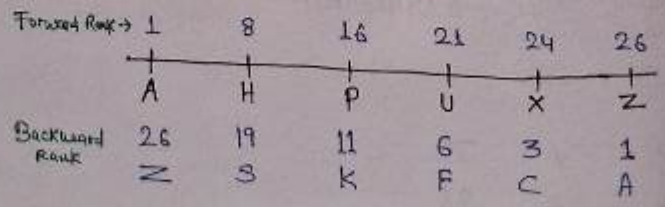
T = 9th from right end

Sum = 6+9 = 15 ← one more than actual no. letters.

Conclusion:

Backward Rank = 27 − Forward Rank

* How to determine opposite letters:



* Place Value of Alphabets / opposite letters

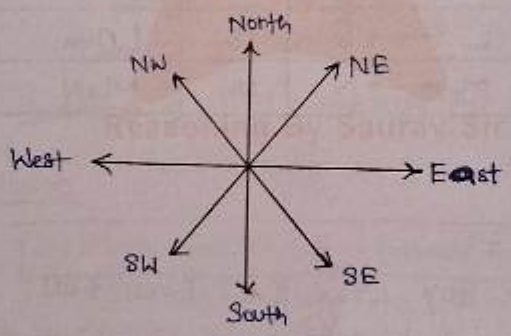
Place value	opposite letters	Place value	Story-words
1	A ⟷ Z	26	AZad
2	B ⟷ Y	25	BoY
3	C ⟷ X	24	CraX
4	D ⟷ W	23	DeW
5	E ⟷ V	22	EVen
6	F ⟷ U	21	FUll
7	G ⟷ T	20	GT road
8	H ⟷ S	19	High Speed
9	I ⟷ R	18	Indian Railways
10	J ⟷ Q	17	Jungle Queen
11	K ⟷ P	16	KanPur
12	L ⟷ O	15	LOve
13	M ⟷ N	14	MaN

* STORY

Azad a Boy, Crax Dew Even Full on G.T. road in High Speed crossed an Indian Railways then met Jungle Queen of Kanpur, fell in love, He was a Man.

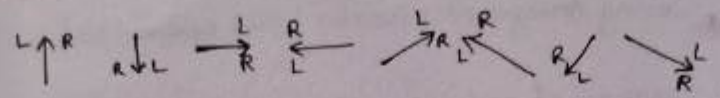
* About Direction

- In reasoning, Direction Sense is an important topic that tests a Candidate's ability to visualize and analyze directions based on given instructions.
- Concept of Direction is used in different chapters
- **Basic Direction:**
  - North (↑)
  - South (↓)
  - East (→)
  - West (←)
- **Subordinate/Intercardinal Direction:**
  - North - East (NE) [↗]
  - North - West (NW) [↖]
  - South - East (SE) [↘]
  - South - West (SW) [↙]



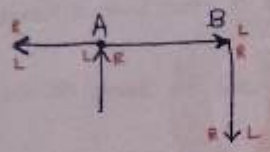
Note: In any situation, to fetch the direction as left and right — Always assume yourself.
(Khud ko rakh kar dekha kro!)

Example:



* Direct Implementation in Direction-Distance chapter.

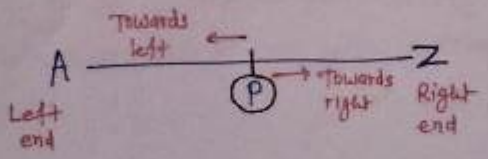
Example



* Direct Implementation in Seating Arrangement chapter.

Example:

* Direct Implementation in Alphanumeric Series chapter.



IV About Verbal Reasoning:

Seating Arrangement | Puzzles | Blood Relation | Direction

- Demand of verbal Reasoning or all the above mentioned chapter is Same. That means in all these chapters, we are Supposed to Convert the passage in a Plot/table etc.
- Concepts of verbal Reasoning is tied with a Common thread
- Framing of Sentences/clues used to Same as well.

Example

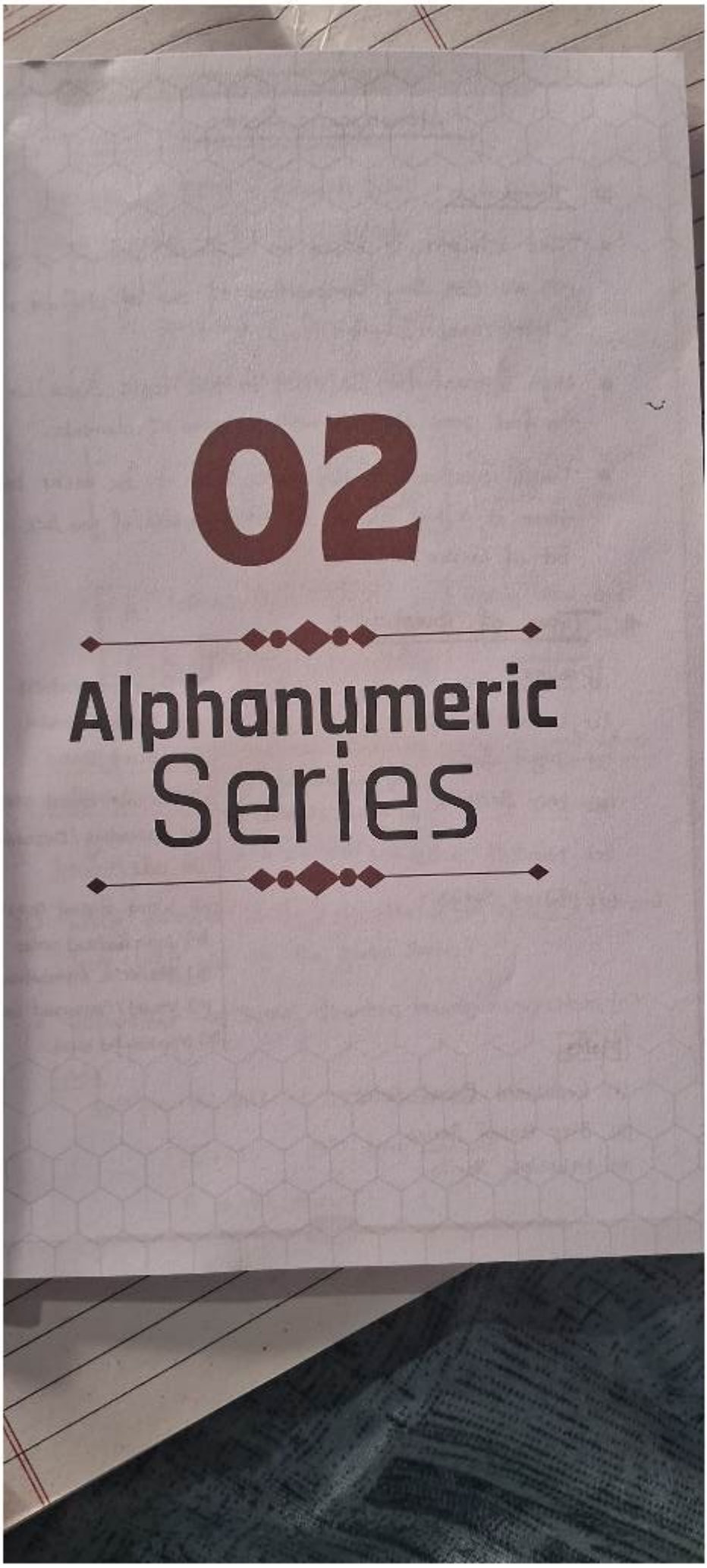
(i) A is 3rd to the right of B. [Seating Arrangement]

(ii) A is 3 Places above B. [Puzzles]

(iii) A is the father of B. [Blood Relation]

(iv) A is 5 Km north of B. [Direction - Distance]

Note: In the above example we can observe the Similarity in the framing of Sentences/clues. Generally we treat each of these Chapters to be so different, but actually they are so Common in Clues Presentation and demand too.


02
Alphanumeric
Series

Alphanumeric Series

Introduction:

- This chapter is based on different variety of Series (or) we Can Say Composition of set of different elem (letter/number/symbol)
- High Concantration is must in this topic. Since, we ne to find some elements with in Series of elements.
- Though questions of this topic Seems to be easier but there is a high chance of doing mistake if you lack a bit of Concantration.

Types of questions:

Prelims

(i) Letter Series
(ii) Digit Series
(iii) Mix Series < Any two elements set / All three elements Set
(iv) Numeric Series
(v) Word Series
(vi) Pair formation
  (a) Number Based
  (b) Word Based
(vii) Number Based quest
  (a) Ascending/Descend
  (b) odd/Even
(viii) Word Based questi
  (a) Alphabetical order
  (b) Reverse Alphabetical
  (c) Vowel/Consonant Ba
(ix) Meaningful Word.

Mains

(i) Resultant Based Series
(ii) Step Based Series
(iii) Multiple Series

Important Words to remember:

I. Precede → पहले (towards left)

II Follow/Succeed → बाद में (towards right)

Example

[A is preceded by B → B A
A is followed/Succeeded by B → A B] Most commonly asked/used.

[A Precedes B
A is Preceding B } A B] Rarely used but important. (Mains)

[A follows B
A is following B } B A] Rarely used but important. (Mains)

Concept of position of elements with respect of to different directions in a Series:

Example

W 7 * 3 P Φ % Z A 2 # X @ L B 2 $ 6 Φ R ÷ 9

Q1) Which element is (10th) to the (left) of (15th) element from (left) end of the given Series?

- Remember → Same direction means Subtraction (−).

Given

10th to the left of 15th from left end

15 − 10 = 5th from left end.

P is the Answer.

W 7 * 3 P Φ % Z A 2 # X @ 1 B 2 $ 6 Φ R £ 9

Q2) Which element is (10th) to the (right) of (15th) element from (right) end of the given Series?

- Again → Same direction means Subtraction (−).

Given

10th to the right of 15th from right end.

15 − 10 = 5th from right end.

6 is the Answer.

W 7 * 3 P Φ % Z A 2 # X @ 1 B 2 $ 6 Φ R $ 9

Q3) Which element is (6th) to the (right) of (10th) element from (left) end of the given Series?

- Remember → Different direction means Addition (+).

Given

6th to the right of 10th from left end.

10 + 6 = 16th from left end.

2 is the Answer.

W 7 * 3 P Φ % Z A 2 # X @ 1 B 2 $ 6 Φ R $ 9

Q4) Which element is 6th to the left of 10th element from right end of the given Series?

- Remember → Different direction means Addition (+)

Given

6th to the left of 10th from right end.

10 + 6 = 16th from right end.

% is the Answer

Note: Counting → Direction with end.

* **Conclusion**

Same Direction	Subtraction (−)
Different Direction	Addition (+)

Exception Where 3 or 4 directions are involved.

↳ In such cases don't apply the formula.

- Try to solve by interpreting the sentence from end.

Example

W 7 * 3 F Φ % Z A 2 # X @ 1 B 2 $ 6 Φ R $ 9

Q Which element is 8th to the left (of) 12th to the right (of) 5th element from the left end of the given series?

Sol: Sabse Pahle red underline wale part ko Solve karo.

12th right, 5th left

Means, Addition → 12 + 5 = 17th from left end.

Now → Take only Green underlined words.

8th to the left of 17th from left end

Same direction means difference/subtraction

17 − 8 = 9th from left end

'A' is the Answer.

Let's see all the types of Series one by one:

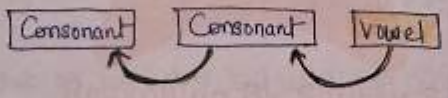
I Letter Series

- Carries letters only.
- Take care of the words like – vowel / Consonant
- Be alert with the word – dropped.
- Dropped = Eliminated = Deleted
- Learn to Prioritise elements.
- No. of Consonant > No. of vowel.

  Since, the no. of vowels are very less w.r.t. Consonant, focus/Priority should be given to vowel.

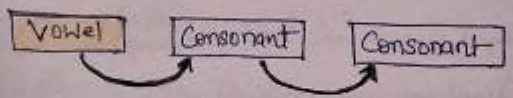
Example

* Consonant Preceded by Consonant and followed by vowel.



(C C V)

* Consonant preceded by vowel and followed by Consonant

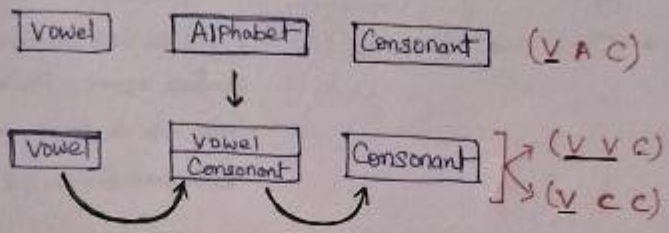


(V C C)

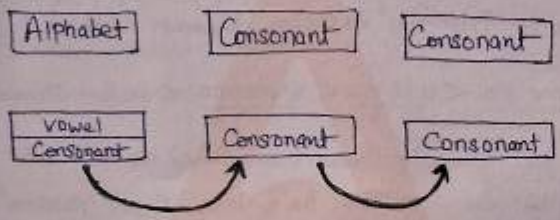
* Vowel Preceded by Consonant and followed by Consonant

(C V C)

* Alphabet Preceded by vowel and followed by Consonant.
(vowel + Consonant)



* Consonant Preceded by Alphabet/letter and followed by Consonant



* Very Important Concept

I. If vowel is changed to Next letter/Previous letter and asked to find No. of vowel → No need to Process it.

II. If Consonants are changed to Next letter and asked to find vowels → Z D H N T (Consonant + 1)

III. If Consonants are changed to Previous letter and asked to find no. of vowels → B J P F V (Consonant - 1)

II. Digit Series

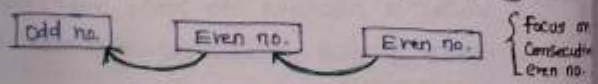
- Carries digits only.
- Take care of terms like – Even no., Odd no., Prime no., Perfect Square, Perfect Cube, Composite no. (Having more than 2 factors. Ex – 4, 6, 8, 9, 10 etc.)
- Needs to carry amazing Concentration.
- Be alert in differentiating odd no. & prime no.
- Learn to Priorities among different numbers.

Prime no. < odd no. < Even no. < Perfect Square/cube

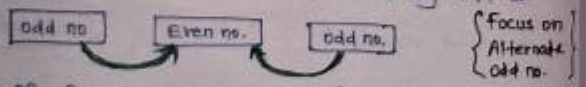
"Series me generally Sabse kam Prime no. phir odd no. aur phir even no hote hain, inka dhyan rakhna." 😊

Some Examples

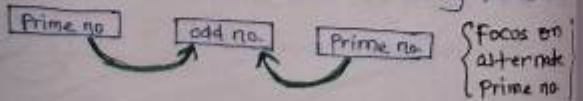
* Even no. preceded by odd no. and followed by even no.



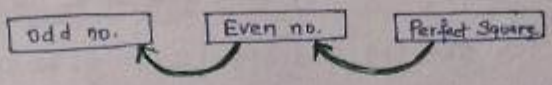
* Even no. Preceded as well as followed by odd no.



* Odd no. Preceded as well as followed by Prime no.



* Even no. Preceded by odd no. and followed by Perfect Square no.



NOTE: Saara khel Priority ka hai .... Samjhe Champion 😀

III. Mix Series

(i) Any two element Set

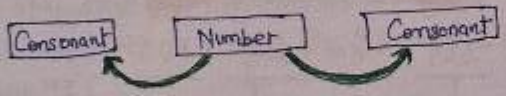
- Number – Symbol Combo
- Number – Letter Combo
- Letter – Symbol Combo

(ii) All three elements Set

- Combination of Number – letter – Symbol
- Priority → ① Symbol
  ② Number
  ③ Letters (Vowel / Consonant)

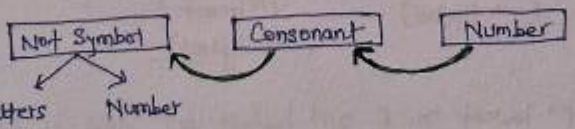
* Some examples

*



↳ Frequency of no. use to be less as Compared to letters, So Focus on Number.

*



IV. Numeric Series

- Carries Set of numbers, Mostly five Set of 3/4 digit numbers

Ex: 324 569 178 928 673 | 2349 5272 6823 1863 92

- Be alert with the word – Interchange.

Ex: Interchange 1st & 3rd digit / 2nd & 3rd digit

- Take Care of terms like – Highest no./Lowest no.

Second highest / second lowest / third highest/third lowest

↳ ye bahot imp. hai...

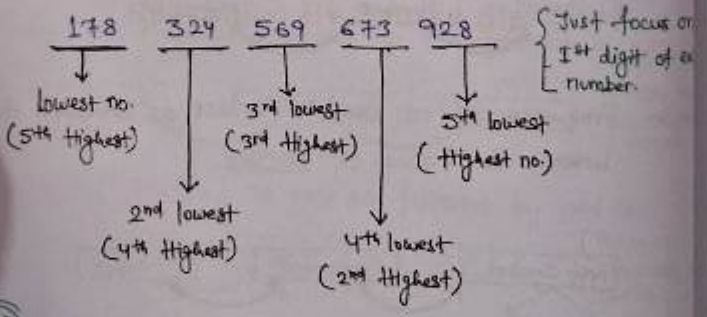
- Ascending order / Descending order – Imp. term.

- Remember this example:

If we have a 5 Set of number

324 569 178 928 673

If Asked to arrange in Ascending order from left end.



Note:
↳ 4th lowest no. & 2nd highest no. Same hi hoga.
↳ 2nd lowest no. & 4th highest no. Same hi hoga.
and so on as discussed above.

- Divisibility Rules of 2, 3, 4, 5, 6, 7 etc should be clear.

Note: If Asked → Sum / Difference / Product / Resultant

↓

Will have to Identify the two number/digit only.

V. Word Series

- Carries Set of words, mostly five Set of 3/4 letter word.

Ex: TUB XUT GAD BAD MET

- Interchange — Again important term.
- Take Care — vowel / consonant
- Consonants next letter → Then asked to find vowel.

Z	D	H	N	T

- Consonants Previous letter → vowel ?

B	J	P	F	V

- Vowel's next vowel :

A → E

E → I

I → O

O → U

U → A (Can be taken only if Instructed)

- Arrange the given words in Dictionary order from left end / right end. — Imp. term
  [focus on only 1st letter, if two words are having same 1st letter then focus on 2nd letter also.

- Alphabetical order from left to right

  A, B, C, D - - - - - - - X, Y, Z

- Alphabetical order from right to left

  Z, Y, X, - - - - - - - - - C, B, A

- Reverse Alphabetical order from left to right

  Z, Y, X - - - - - - - - C, B, A

- Reverse Alphabetical order from right to left

  A, B, C, - - - - - - - - X, Y, Z.

* Pair Formation :

- Two Type of question → Number Based / Word Based
- In word Based questions, Convert Letter into place value.
- Always check, If they have asked to find the pair only in forward / Backward / Both Direction.

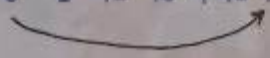
- Sometimes they don't talk about any direction, in such cases, we need to find the pair in both Direction (forward/Backward).

Example:

Q How many pair of letters are there in the word "CHAMPION" each of which has as many letters between them in the word as in the English alphabetical Series. (Only in forward direction)?

↳

C	H	A	M	P	I	O	N
3	8	1	13	16	9	15	14



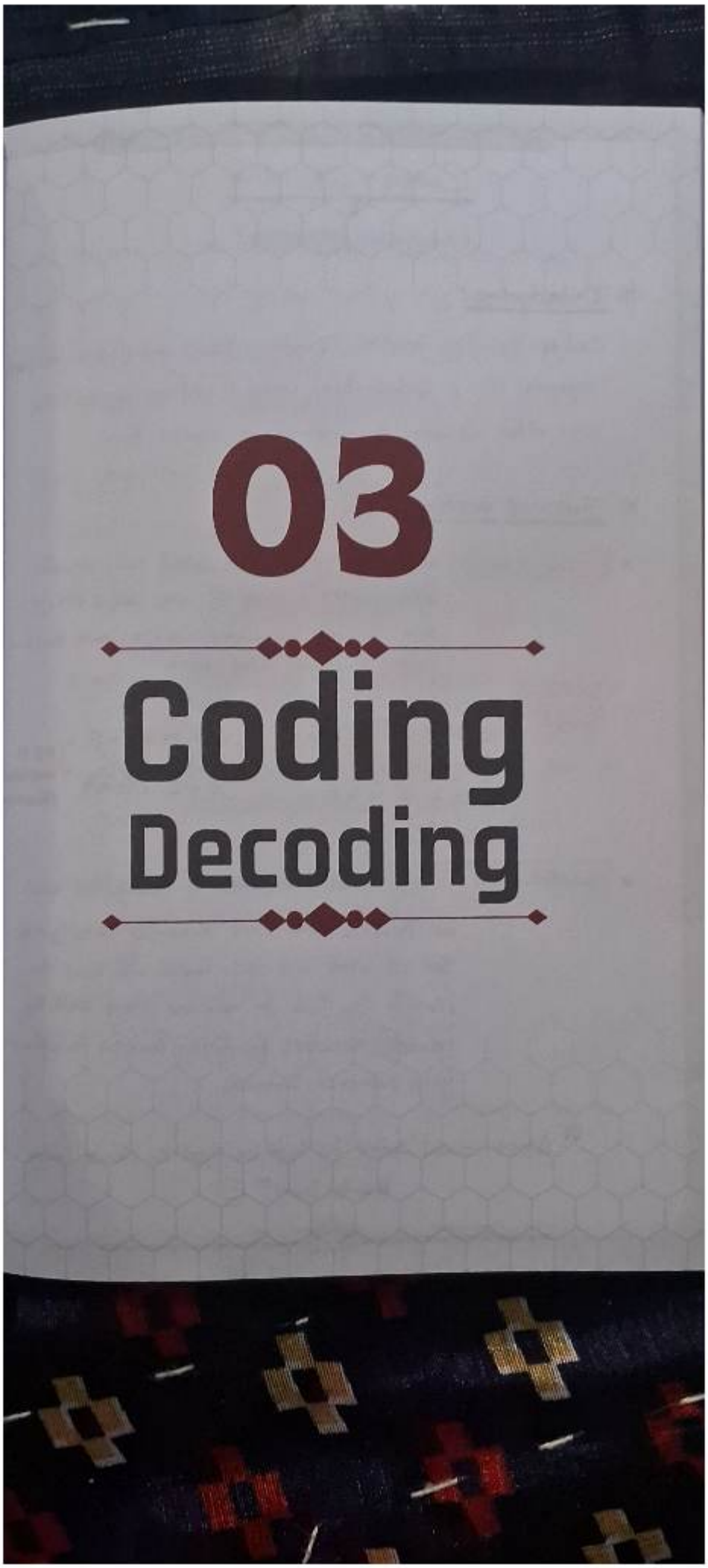
Answer → 1 Pair only.

Q Same question - Same word — only in Backward direction.

C	H	A	M	P	I	O	N
3	8	1	13	16	9	15	14

Answer → 2 Pair only.

Note: Humesha chhote no. se bade no. ko hi check kiya kro.... No need to check each no. to each no.


03
Coding
Decoding

Coding - Decoding

(Analytical Reasoning)

Introduction:

Coding-Decoding involves Converting messages (letters, numbers, Symbols) into a Coded form using a defined logical rule, and then decoding it back into its original form.

* Types of questions:

- **Basic Coding** – Words (or) Numbers are Coded using specific letter Pattern in case of word Based Coding and Numbers are Coded based on their Position Values in number based Coding.

Example:

C H A M P I O N
+2 +2 +2 +2 -2 -2 -2 -2
E J C O N G M L

RANKERS
17 4 21 14 22 21 8
+3 in each letter Place

- **Substitutional Coding** – In this type of Coding, we will be Provided with Some Sentences Carrying some Set of words and their Codes. We need to identify the Code for each and every word by relating the words by finding Common in different given reference Sentences.

" Substitutional Coding ko hum log Pyaar se chinese Coding Kahte hain." ☺

Example with Imp tip:

(i) "Reasoning Hand Written Notes" – "La Ru Sc Hm"

(ii) "Concept Notes Champion Practice" – "Ru Mq Ex sb"

(iii) "Written Practice Rank File" – "Hm Qi Mq Fy"

(iv) "Champions Reasoning Book Daily" – "Ex La Te Zq"

Let's find the Code for each word:

Reasoning – Present in (i) & (iv) Sentence.
No other word is common in (i) & (iv)
So, Common Code in (i) & (iv) is 'La'

Hand – We Cannot find word – Hand • in any Sentence.
Hence it will be treated as unique word.
There would be one Code in (i) – Jo Kahin aur nahi hoga wahi answer hoga. – 'Sc'

Written – Sirf (i) & (iii) me hai.
Common Code – 'Hm'

Notes – Sirf (i) & (ii) me hai
Common Code – 'Ru'

Concept – Sirf (ii) Sentence me hai – Unique Word hai.
Code → 'sb'

Book & Daily → Ye dono word kisi or Sentence me nahi h
Ye dono specifically (iv) Sentence me hi hain
Sentence (iv) me 2 Code bhi aise hain Jo kis
Use nahi Kiye gaye hai.

Hence, Code will be in 'either or'

"Book – Te (or) zd"

"Daily – Te (or) zd."

* Concept of "either or"

- We have two Situation of "either or" in this type of questi

Case I: When two words are exclusively Present in one Sentenc
[un dono me se ek bhi word Kahi or na ho]

Case II: When two words are present exclusively in two Sente
[Again, un dono me se ek bhi Kahin or nahi dikhna chahi

Imp. point 'If' based question — Best question of chinese Coding

Q. If the Code of Rank Reasoning Rankers is "Φi Ca La", then what will be the Code for "File Rankers"?

Note: Humesha yaad rakhna if based question me Jo referenc word diye Jate hain, unme se ek hamesha wo word hoga Jo either ka Part hoga – Isme se ek word ko referen me aur dusre word ko question me dala Jayega.

- Jaise given question me – Rank & File Either wala word hai and Rank ko reference me rakha gaya hai to file ko asked question me.
- Agar aapko ye logic pata hai to aapko question me Either wale word par hi attack karna chahiye taaki aap apna answer sahi aur jaldi nikal saken.

Answer of the given question:

Rank & File – Either word hain

Rank Code – Qi / Fy

File Code – Qi / Fy

'Qi' has been used in reference for Rank

So, Code for file – 'Fy'

Rankers is a new word from reference – Code is 'Ca'

Final Answer → 'Fy Ca'

* Conditional Coding (Two types)

Questions with Coding Box Given followed by Conditions then question.	Question where we need to Create Box for Coding as per the given instruction followed by Conditions then Questions.

- Questions Seems to be tough but Simple with respect to Mains exam.
- Be alert in Case of multiple Condition is applied.

* Binary Coding : (0,1)

- Code that Computer understands.
- We need to know, how to Convert decimal no. in binary.

Trick: 32 16 8 4 2 1 → Reference {Isko hamesha yaad k

Right to left (Doubles Always)

Q. How to write the following no in binary?

10 → 1010
12 → 1100
25 → 11001
37 → 100101

32	16	8	4	2	1
		1	0	1	0
		1	1	0	0
	1	1	0	0	1
1	0	0	1	0	1

Note:
Jis no. ka use karenge uske niche 1, Jis no. ka use nah karenge uska liye 0.

Ex: 10 → 8 & 2 ka use hua isliye unke niche 1.

Note:
- Always Remember, Binary no. for even no. will always end with 0.
- And Binary no. for odd no will always end with 1.

* New Pattern Coding :

- This is a developed version of Substitution/Chinese Coding.
- Each word and their respective Codes use to be unique.
- Logic used for Coding -- Can be Infinite.
- Coding of Words includes — Letter / Number / Symbols.

* Possible logic for Letters :

- First / last letter
- Reverse of first / last letter
- 2nd / 2nd last letter.
- Reverse of 2nd / 2nd last letter.
- Middle letter [if odd no. of letters in word]
- Two Middle letter [In Case of even no. letter word]
- Highest / Lowest letter
- Highest / Lowest vowel
- Highest / lowest Consonant.
- 2nd / 3rd Highest letter
- 2nd / 3rd lowest letter
- 2nd / 3rd highest / lowest vowel.
- 2nd / 3rd highest / lowest Consonant.

Note: The logics for letters Can't be bound but yes these logics will help you and try add if you find new one.

* Possible Logic for Numbers

- Forward rank of first / letter / last letter.
- Backward rank of first / last letter.
- Forward rank of 2nd / 3rd letter from both end.
- Backward rank of 2nd / 3rd letter from both end.
- No. of letters.
- No. of letters ± x
- No. of vowels
- No of vowels ± x
- No of Consonant
- No of Consonants ± x
- Sum of the Place value of first / last letter.
- Sum of the Place value of 2nd / 3rd letter from both end.
- Sum of Backward Place value of First / last letter.
- Sum of the Place value of vowels.
- Sum of the Place value of Consonants.
- Square no. of the total no. of letters in word.
- Square no. of the total no. of vowels.
- Square no. of the total no. of Consonants.
- Cube no. of the total no. of vowels / Consonants.
- Difference between the Place value of first / last letters.

* Possible Logics for Symbols

- Total no. of letters (if even)
- Total no. of letters (if odd)
- Total no. of vowels
- Total no. of Consonants
- First/last letter of word (if vowel)
- First/last letter of word (if Consonant)

Note:

- Again, we can't bound the logics for numbers & symbo as well but we have gone through some possible logi to be a bit closer to the logic.
- Try to add logics to the above discussed logic, if yo find some good logic anytime solving the question.

04

Inequalities

Inequalities

"Discussion of Comparison between the elements"

Introduction:

Inequalities are all about doing Comparison between two or more elements.

When we think about doing the Comparison between any two random elements, we get only three thoughts or outcome i.e. Greater (>), less (<) and equal (=).

Apart from these three Basic Symbols, we have some more Symbols which are Conditional or Indefinite in nature.

i.e. Greater than or equal to ($\geq$)
Less than or equal to ($\leq$)
Not equal to ($\neq$)

Definite Symbols (Basic Symbols)	Indefinite Symbols (Conditional Symbols)
[>] → Greater than	[$\geq$] → Greater than or equal to
[<] → Less than	[$\leq$] → Less than or equal to
[=] → Equal to	[$\neq$] → Not equal to

Note: out of the above Six Symbols, Five (5) of them are used regularly. (>, <, =, $\geq$, $\leq$) to form an expression.

Secondary Symbols:

(i) Not Greater ($\not>$) $\leftrightarrow$ ($\leq$) Less than or equal to
(ii) Not Less ($\not<$) $\leftrightarrow$ ($\geq$) Greater than or equal to
(iii) Not Greater than or equal to ($\not\geq$) $\leftrightarrow$ (<) Less than.
(iv) Not Less than or equal to ($\not\leq$) $\leftrightarrow$ (>) Greater than.

(v) Not equal to ($\neq$) $\leftrightarrow$ ($\gtrless$) Greater than or Less than
(vi) Equal to ($=$) $\leftrightarrow$ ($\not\gtrless$) Not Greater, not less.

SYMBOLS	
Primary	Secondary
$>$	$\not\leq$
$<$	$\not\geq$
$\geq$	$\not<$
$\leq$	$\not>$
$=$	$\not\lessgtr$
$\gtrless$	$\neq$

How to do Comparison?

* $A>B=C \rightarrow A>C$

$A>B>C \rightarrow A>C$

$A>B\geq C \rightarrow A>C$
$A>B>C \rightarrow A>C$
$A>B=C \rightarrow A>C$

"Asal me Comparison 2 Symbols ke bich hi hota hai, Jaisa aapne upar ke example me dekha.... Chaliye aor examples dekhte hain...."

* $A<B=C \rightarrow A<C$

$A<B<C \rightarrow A<C$

$A \leqslant B \leqslant C$
$A<B<C \rightarrow A<C$
$A<B=C \rightarrow A<C$
$\} A<C$

Definite Symbol — Indefinite Symbol

Note: Generally we see only 5 symbols ($>, <, =, \geq, \leq$) are used in questions/expressions. And if try to combine each two symbols to form an expression, we can form only 14 combination of Comparison.

Possible Combination of Comparison : [14 Total]

(These 14 combinations can be deduced in 4 points)

(1) Comparison of ($=$) with any other Symbol → outcome other Symbol

(i) $A > B = C \rightarrow A > C$

(ii) $A \geq B = C \rightarrow A \geq C$

(iii) $A < B = C \rightarrow A < C$

(iv) $A \leq B = C \rightarrow A \leq C$

(v) ≠

(2) Comparison between Same Symbols → outcome Same Symbol

(v) $A > B > C \rightarrow A > C$

(vi) $A < B < C \rightarrow A < C$

(vii) $A \geq B \geq C \rightarrow A \geq C$

(viii) $A \leq B \leq C \rightarrow A \leq C$

(3) Comparison between definite and indefinite symbol of same direction → outcome definite Symbol.

(ix) $A > B \geq C \rightarrow A > C$

(x) $A \leq B < C \rightarrow A < C$

Note: Out of 14 set of Comparison, there are the 10 Comparison where we get the outcome – either definite (or) indefinite. But rest 4 set of Comparison don't have outcome.

(4) Comparison between opposite direction Symbol → Outcome No Rel^n.

(xi) $A > B < C \rightarrow$
(xii) $A \leq B > C \rightarrow$
(xiii) $A \geq B < C \rightarrow$
(xiv) $A \geq B \leq C \rightarrow$

In all these expressions, we can't establish any relation between A & C.
Hence the outcome we get here is only in Possibility.

Note: In sabki expression ka answer Same hoga .... Chahe inke bich kitne bhi Symbol hon!

Example St: $A > B < C / A \geq B < C / A \leq B > C / A \geq B \leq C$

Conl^n I $A > C$
II $A < C$
III $A = C$

Since, we are not aware of relation between A & C in all the statements due to same reason – opposite Symbols

A and C will become two random elements and we need to keep all the possible Situation of Comparison.

But, its presentation can be more formal – "Either or"

Again St: $A > B < C$

Conl^n I. $A > C$ or $A \geq C$ or $A = C$
II. $A \leq C$ $A < C$ $A \neq C$
] Either or

Ye Jaroor yaad rakhna

In the same above Condition – opp. Symbol Case.

If St. $A > B < C / A \geq B < C / A \geq B \leq C / A \leq B \geq C$

I $A \geq C$
II. $A \leq C$
] Neither or

Ye either or Nahi ho payega!

If St: $A>B<C / A\geq B<C / A>B\leq C / A\leq B>C$

I $A>C$
II $A<C$
] Neither nor

Ye bhi Either or nahi ho paayega!

Note: In case of opposite symbol situation in statement, we need to have all the three symbols in two conclusions having same element.

All the three symbol means → [>, <, =] only this.

Another Case/Situation of "Either or": [Indefinite outcome]

- In any statement if the outcome we are getting is Indef... means → $\geq$ (Greater than or equal to), $\leq$ (Less than or equal... or $\neq$ (Not equal to), we can have answer/conclusion in Eith...

Example:

St: $A\geq B=C \rightarrow (A\geq C)$

I. $A>C$
II. $A=C$
] Either or

St: $A\leq B=C \rightarrow (A\leq C)$

I $A<C$
II $A=C$
] Either or

St: $A\neq B=C \ (A\neq C) \rightarrow (A\geq C)$

I $A>C$
II $A<C$
] Either or

Conditions for "Either or":

I. Both the elements of two given conclusion must be Sam...
II. Both the conclusions must be wrong individually.
III. Collectively, both the conclusion should satisfy the statem...

Forward / Backward Concept:

- To Solve the questions, we use to read the Statement / expression only after going through the Conclusions. Moreover we can say that, Conclusions use to give us task to Compare between the elements and for that we can have the situation to read the Statement/expression in forward (left to right) direction or backward (right to left) direction.

- Always remember – At the time of backward direction movement, we need to reverse the Concerning Symbols.

means → $> \leftrightarrow <$

$\geq \leftrightarrow \leq$

" Jyada Angrezi ho gai ... Acha ye Padho !

Simple Bhasha → Ulta chalenge toh Symbols ko Ulta karenge."

Example St: $A \geq B = C > D = E \leq F$

Conclⁿ I. $A > E$ (✓) → For A to E, forward direction movement.

II. $F \geq D$ (✓) → For F to D, Backward direction movement means Symbols will be reversed.

Deep explanation

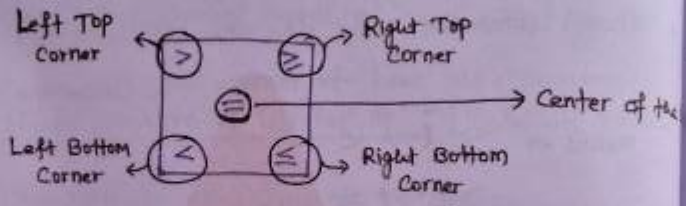
I. $A > E$ (True) For A to E, we had $\geq, =, >, =$ and the outcome will be (>), After the Comparison. Movement was forward so, No change.

II. $F \geq D$ (True) For F to D, We had $\leq, =$ and the outcome will be ($\leq$) after the Comparison. Movement was Backward so ($\leq$) became ($\geq$). Hence $F \geq D$ is true.

Magic Box Concept : [Coded Inequality]

- Magic Box Concept is used in Case of Coded form of Inequalities questions. Since, we know that 5 symbols (>, <, ≥, ≤, =) are used in the formation of expression of the questions of inequalities.

  We will allocate a fix place for each of the Symbols in a Square called as Magic Box.

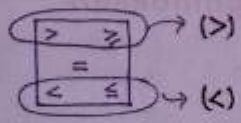


"Please ! Aisi Galti mat Kar dena..."

Matlab Kisi bhi Symbol ko Kahi bhi Place ya move karne ki Galti. Follow the Symbol positioning as discussed above.

Let's See different Situations and their outcomes in Magic Box

I



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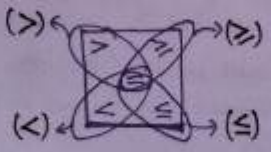

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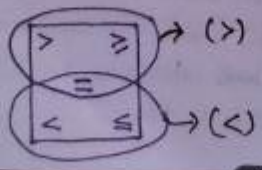
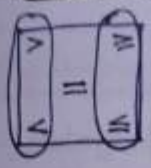


IV. 

Vertical Combination of Symbols gives "No Relation" as outcome.

V. 

Diagonal Combination of Symbols gives again "No Relation" as outcome.

* Let's implement Codes in Magic Box :

- Let Suppose

> is Coded as @

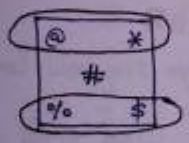
< is Coded as %

≥ is Coded as *

≤ is Coded as $

= is Coded as #

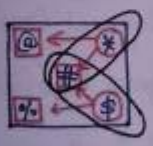
Now, we will put these Symbols (Coded) in magic Box.



Here,

Fight bet^n @ and * gives [@]

Fight bet^n % and $ gives [%]



Here,

Fight bet^n * and # gives [*] ~ (≥)

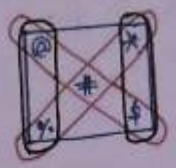
If A # B * C → A * C

I. A @ C] either
II. A # C] or

Similarly, Fight bet^n $ and # gives [$] ~ (≤)

If A $ B # C → A $ C

[I. A % C II. A # C] either or



Always remember,

Vertical Combination of Symbols

&

Diagonal Combination of Symbols

Always give us → "NO Relation"

Here,

Fight bet^n * and $ / @ and % gives NO Relation

Same as,

Fight bet^n @ and $ / * and % gives - NO Relation

Note: In Case of NO Relation – Diagonal Symbols will represent all the three Symbol and Justify Either.

Q. If A * B $ C → Between A & C – No Rel^n.

Conj^n

I A @ C	I. A * C
II A $ C	II A % C

} Either or in Both the Situation

Simple Bhasha me → Jab bhi vertical ya Diagonal Combination hoga to NO Relation hoga aur usko Either me represent karne Ke liye hume diagonal Combination rakhna hoga. I think Samajh gaye hoge.

Achha ek baat aur → Bail Buddhi nahi lagana hai. 😉

* Definitely false Concept :

- Jis Conclusion ki possibility na ban paaye.

Agar Conclusion diya ho...	Toh Statement ka Outcome aisa ho...
$>$	$</\leq/=$
$<$	$>/\geq/=$
$\geq$	$<$
$\leq$	$>$
$=$	$>/<$

* Some Important Example :

St: $M<\Phi=R\leq Y=P;\ L>T\geq\Phi$

Conl^n: I. $\Phi < Y$ } Either or
II. $\Phi = P$ }

Conl^n: I $\Phi < Y$ } Either or
II $P = \Phi$ }

Conl^n: I. $\Phi < Y$ } Either or
II. $R = P$ }

- Is equal to (=) Symbol ko kabhi halke me mat lena...
- In teeno example me yahi dikhaya gaya hai kaise element different/change hone ke baad bhi "either or" hua.
- Just because = ke wajah se element Common ho gaye.

St: $A \geq F > P = M$; $G = X > A \leq Z = N$

Conl": I. $X > Z$
II. $X \leq N$
} Either or

Conl": I. $G > Z$
II. $X \leq Z$
} Either or

Conl": I. $X > Z$
II. $Z \geq X$, $(X \leq Z)$
} Either or

Conl": I. $G > N$
II. $X \leq Z$
} Either or

- In saare cases me bhi is equal to ne poora game change kiya hai.
- Matlab element common nahi dikh rhe, lekin statement me (=) ke wajah se same ho gaye.
- Kul milakar (=) ko halke me na len... gyan ki baat

05

Syllogism

Syllogism

["Discussion of relation between the elements"]

Introduction:

This chapter demands your analytical & Judgement ability to be checked. questions will have two Part — the Statement and the conclusion.

The Statement → Always inform us about the relation bet the elements.

The Conclusion → Always talks about the hidden relation of the given statement.

Example

Statement : All Bihar is in India

The information about Bihar which is in India.

Conclusion : Patna is in India.

The hidden relation/info that Patna is in India.

Note: Although the above example carries very Practical & real situation or information Just to make you clear about these two words — Statement & Conclusion & their task. But the questions of Syllogism don't take this much real situation/information very often.

"Tension nahi dost, apan venn Diagram se kar lenge... aage Padho" ☺

* We have only 4 words, which will define the relations.

— Some	Positive Words	— Some not	Negative Words
— All		— NO	

Types of Statement :

(i) Positive Statement	(ii) Negative Statement
Some A are B	Some A are not B
All A are B	No A are B

Here Some, Some not, All and No are the words which are defining the relation between A and B, which are elements.

- Positive Statement Shows Positive Relation (दोस्ती)
- Negative Statement Shows Negative Relation (दुश्मनी)

Note: Since the Statement of Syllogism use to illogical in nature, it is tough for us to analyse it and draw the ~~closer~~ Conclusion or do the Judgement, Hence we use Venn Diagram to understand the relations.

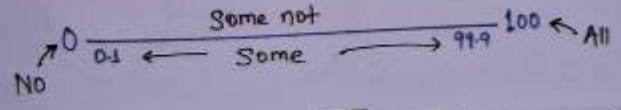
Venn Diagram : (Ye Kis chidiya Ka naam hai ??)

Pictorial Representation of the relations between the elements.

"matlab ye hamare Statement Ko Picture form me Convert Karta hai, taaki hum Statement Ko Samajh saken"

Q. How these 4 words (Some, Some not, All, No) have been Chosen to represent the relations ?

OK ! Let's take a Nuber line for example.



Now, we will try to replace the numbers with words.

- 0 → No (Stable word)
- 100 → All (Stable word)
- Betⁿ 0 to 100 → Every data is Either Some or Some not (Some not → unstable word)

Words and their Secondary faces :

1) **SOME**

- Few — A few — Atleast Some — Almost All
- Mostly — Generally — Maximum — Minimum
- Many — More — Certain — A Portion of
- 0.1 - 99.9 % — only a few (Conditional)

2) **ALL**

- Any — Every — Each — 100%
- No Keyword — only (Conditional)

3) **NO**

- None — Never — No one — All not
- Not a Single — 0%

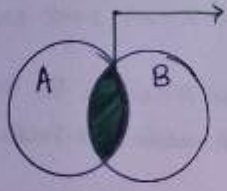
4) **SOME NOT**

- Hardly — Scarcely — Seldom — Nothing but

How to draw the Venn Diagram ?

We have only 4 Prime Statements hence, we will be having only 4 venn diagram.

(i) Some A are B (कुछ A, B हैं।)



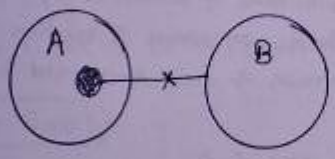
→ Common Area / Informed Relation

- A & B have a common area.
- Rest Part of A & B is uninformed area or Blank area.

(ii) All A are B (सभी A, B हैं।)

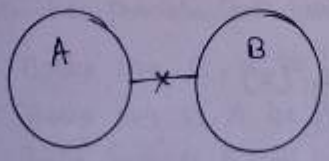
- All A is in B but it does not mean that all B is also in A.
- Rest Part of B is uninformed / ~~Blank~~ Blank.

(iii) Some A are not B (कुछ A, B नहीं हैं।)



- Some Part of A is having restriction with whole Part of B.
- Rest Part of A Can have relation with B but only in possibility.

(iv) No A are B (कोई A, B नहीं हैं।)



- Whole Part of A is having restriction with whole Part of B.

Types of Conclusion :

(i) Definite Conclusion

- It Can be Seen/visualized with in the informed area of the venn diagram.
- Absence of Can/may/ Possibility.

Example

I Some A are B.
II. All A Can never be B.

(ii) Indefinite Conclusion

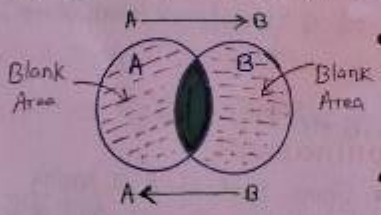
- It Can be drawn out of the uninformed area of the venn diagram.
- Presence of Can/may/Possibi

Example

I. Some A Can be B.
II. All A are B is a possibility.

How to think/write the Conclusions out of any two elemants venn Diagram :

I. Some A are B (जहाँ A,B हैं।)



- There are two ways to visualize any two element venn diagram - From A → B and A ← B
- We have 4 words to represent relati hence, maximum 8 relations Can be drawn 4 from A → B and 4 A ← B

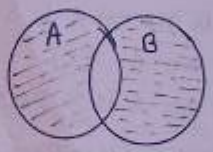
Conclusions: (A to B)

I. Some A are not B. (X)
II. Some A are not B is a possibility. (✓)
III. All A are B. (X)
IV All A are B is a Possibility. (✓)
V. NO A are B. (X)
VI. NO A are B is a possibility. (X)

* {Acha Suno ! Batata hun reasons....}

- Conl" I & III is wrong because they are definite Conclusions and asked about the Blank space.
- Conl" II & IV is true because they are Possible Conclusions and asked about the Blank space.
- "Blank Space me sirf possible Conclusions hi sahi hote hain."
- Conl" V & VI is wrong, although V is def. & VI possible Case of V, the reason it is Contradicting the Statement.

Conclusions (B to A)



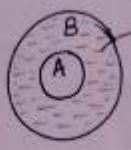
VII. Some B are A. (✓)
VIII. Some B are not A. (X)
IX. Some B are not A is a Possibility. (✓)
X. All B are A (X)
XI. All B are A is a Possibility. (✓)
XII. No B are A. (X)
XIII. No B are A is a Possibility. (X)

* {Phir Suno !}

Blank space Jo hota hai, uske baare me hum definite Conclusion draw nahi kar sakte.... Aur Conl" IX & XI isiliye Correct hua Kyunki dono possible Conl" hain.

Like Bacha hua B, A ho bhi sakta hai aur nahi bhi
Agar Bacha hua B, A ho gya → All B are A is a Poss. ✓
Agar Bacha hua B, A nahi hua → Some B are not A is a Poss ✓

II. All A are B (अर्थात A, B हैं।)



- Sabhi A, B me hain.... Lekin Sabhi B, A me nahi hain. Isliye B to A me Blank Area hai....

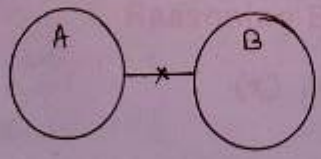
Conclusions: (A to B)

I. Some A are B. (✓)
II. Some A are not B / is a Possibility. (X)
III. No A are B / is a possibility. (X)

Conclusions: (B to A)

I. Some B are A. (✓)
II. Some B are not A. (X)
III. Some B are not A is a Possibility. (✓)
IV. All B are A. (X)
V. All B are A is a Possibility. (✓)
VI. No B are A / is a Possibility. (X)

III. NO A are B (कोई A, B नहीं हैं।)



Conclusions: (A to B)

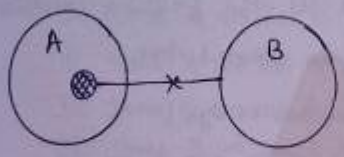
I. Some A are not B. (✓)
II. Some A are B. / is a Possibility. (X)
III. All A are B / is a Possibility. (X)

Note: Since Whole element of 'A' is restricted with 'B'. We Can't make any possibility true at any Cost.

* Conclusions : (B to A)

I. No B are A. (✓)
II. Some B are not A. (✓)
III. Some B are A / is a Possibility. (X)
IV. All B are A / is a possibility. (X)

IV Some A are not B (कुछ A, B नहीं हैं।)



Conclusions : (A to B)

I. Some A are B (X)
II. Some A are B is a Possibility. (✓) ← Both are true because both the Conclusions are about the blank Space of the venn diagram and they are written in possibility.
III. No A are B. (X)
IV. No A are B is a possibility. (✓) ←
V. All A are B (X)
VI* All A are B is a possibility. (X)

Conclusions : (B to A)

I* All B are A is a possibility. (✓)
II. Some B are A is a possibility. (✓)
III. No B are A is a possibility. (✓)
IV Some B are not A is a Possibility (✓)

Note: Ye humesha yaad rakhna !

* All A are B is a possibility (X) BUT All B are A is a possibility (✓)

3 Magical Note :

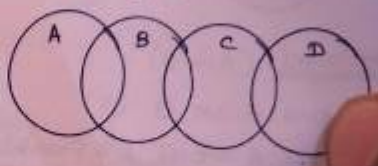
- These notes will help you, understand the Concept and will Provide amazing approach to solve the questions.

NOTE-1

- Whenever there "no relation" between any two elements, then all type of definite Conclusions will be treated wrong (Can't Say) whereas all the possible Conclusions between the same will be treated true.

Example - Aasaan Bhasa me... Samajhne Ke liye !

St: Some A are B
Some B are C
Some C are D



Conl"

I. Some A are C. (x)
II. Some B are D. (x)
III. Some D are A. (x)
IV. No A are D. (x)
V. Some B are not D (x)
VI. No C are A. (x)
VII All A are C. (x)
VIII All A are D is a Poss. (✓)
IX. Some A are C is a Poss. (✓)
X. No D is B is a Poss. (✓)
XI Some D are not A is a Poss. (✓)
XII No C are A is a poss. (✓)

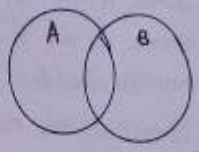
" Yahaan A & C ; B & D
A & D ka Sabka aapas
me Koi relation nahi hai...
"Isliye Inke bich Positive-
Negative har tarah ke definite
Conl" wrong honge Lekin Inke
bich har tarah ke possible Conl"
true honge"...

NOTE-2

- Whenever Conclusion will be asked about the "Blank Space" of any venn diagram, we need to use Possibility to make that Conclusion true.

Example

St: Some A are B



Conl": I. Some A are not B. (X)

II. Some A are not B is a Poss. (✓)

III. Some B are not A. (X)

IV. Some B are not A is a poss. (✓)

Explanation Aisa kyun hota hai yaar !

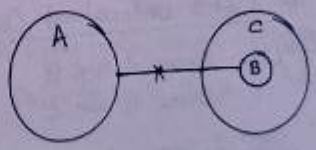
In the above venn diagram, if we will try to find the area of Some A are not B (OR) Some B are not A, we will be seeing / observing the "Blank Space" - uninformed area of the venn diagram. Hence we will have to use possibility to make that Conclusion true.

NOTE-3

- Already existance of relation between two elements or already restriction between two elements, never allows Possibility.

Example

St: NO A are B
All B are C.



Conⁿ

I. Some A are not B is a Possibility. (X)
II. Some C are B is a Possibility. (X)
III. No B are A is a Possibility. (X)
IV Some C are not A is a Possibility. (X)
V Some A are not B. (✓)
VI Some C are B. (✓)
VII No B are A. (✓)
VIII Some C are not A. (✓)

Concept of "Either or":

Either or is all about exploring two set of Conclusions having same element in a defined Possibility.

* Conditions for "Either or":

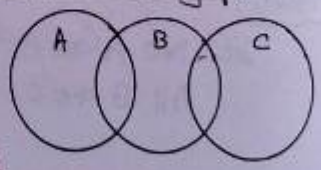
(i) Subject & Predicate of two given Conclusions must be Sa
(ii) one Conclusion should be +ve whereas another most be -ve
(iii) Both the Conclusions must be wrong (Can't Say) Individually

NOTE

- Apart from the above three Conditions, it is necessary that both the Conclusions must Complement each other.

Let's understand Complementary Pairs closely ; (With Exampl

Case I st: Some A are B
Some B are C



Conⁿ: I. Some A are C (X)
II. No A are C (X)
} Either I or II is the Correct answer.

• Explanation: Aisa Kyun hota hai...☺

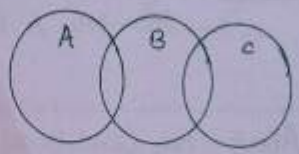
About two Conclusions, if we are saying that they are Complementing each other means, if we Consider one Conclusion to be true (in Possibility) then another should not be true in any ways (Definite/Possibility).

• Let's observe the Example discussed above:

"Sabse pahle ye dekhiye A and C me koi relation nahi hai, iska matlab har tarah ke definite Conclusion Can't Say honge."

Given Conl^{n} was,

I. Some A are C
II NO A are C



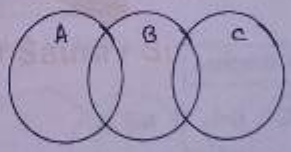
Agar hum Ist Conclusion ko Sahi maan len Possibility me.... matlab aisa maan lo ki kuch A, B ho gye toh NO A are C ke liye koi scope nahi ho sakta, kisi bhi tarah se.

* One more example:

Same statement

Case I

Some A are B.
Some B are C.



Conl^{n}: I. Some A are C (X)
II NO C are A (X)
] Either or

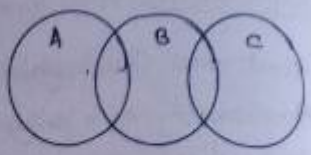
In this example also, if you will apply the above discussed approach of finding Complementary Pair it will Sustain.

Hence,

In Case of Some & NO, Parallel & Cross both Presentation of elements we get 'Either or'.

Case III Same Statement

Some A are B
Some B are C



Conl^n
I. Some A are not C. (X)
II. All A are C (X)
] Either I or II follows

III. Some A are not C (X)
IV. All C are A (X)
] Not "Either or"
It is "Neither nor"

Exceptions
V. All A are C (X)
VI. NO A are C (X)
] "Neither nor"

About two Conditional Words – 'only' & 'only a few'

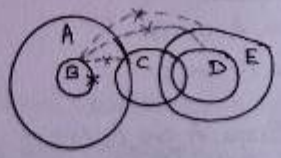
I. **only** → All (with Some Condition)

Example: Only A are B
Means, All B are A.

Matlab Sirf A, B hai.
Aur koi B me nahi aa sakta, na 'B' Kahin Ja Sakta!

Example Question

St. Only A are B
Some A are C
Some C are D
All D are E.



Conl^n
I. NO B are C (✓)
II. NO D are B (✓)
III. Some B are not E. (✓)
IV. All B Can be D. (X)
V. Some A are not E. (✓)
VI. All C Can be B (X)

"There is an automatic "NO Rel^n of 'B' with all other elements Present in the venn Diagram."

Kindly Draw Cross (X) for the element which is Coming under Only Condition. Ex → B here

II. Only a few → Some (with Some Conditions)

Example: Only a few A are B.

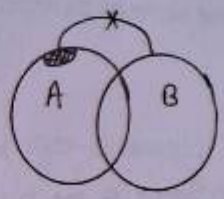
means, Some A are B + Some A are not B

"Matlab Kuch A, B hain lekin Saare A, B Nahi hain..."

"Some A are B but All A Can never B."

Example Question

St: only a few A are B



Conl^{n}: I. Some A are not B. (✓)

II. Some B are not A. (X)

III. All A are B (X)

IV. All A are B is a poss. (X)

V. All B are A is a Poss. (✓)

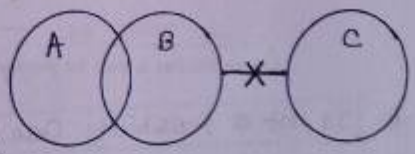
VI. Some B are A is a poss. (X)

VII. Some B are not A is a Poss. (✓)

Sharmaji – Vermaji Concept:

(Most imp. & most Common Statement in Exams)

St: Some A are B
No B are C



Conl^{n}: I. Some A are not C. (✓)

II. Some C are not A. (X)

III. All A are C is a poss. (X)

IV. All C are A is a Poss. (✓)

V. Some A are C is a poss. (✓)

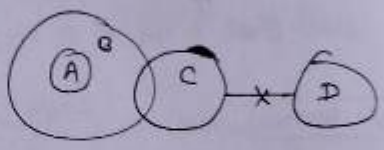
Dhyan se Suno! Sharmaji-Vermaji venn diagram ke ye 5 Conl^{n} humesha Set rakhna dimaag me...

Can be / Cannot be / Can never be Concept:

[Ekdum achhe se Samajh lo... Koi natak nahi]

Statement

All A are B
Some B are C
No C are D.



Conclusion

I. Some B Can be D.
↳ Some B are D is a Possibility. (✓)

II. Some B Cannot be D
↳ Some B are not D is a Possibility. (X)
(✓) (X)

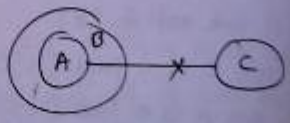
III. Some B Can never be D.
↳ Some B are not D. (✓)

* **Note:** Can be / Cannot be → Possibility.

Can never be → Certain.
(Kuch bhi kar le nahi ho payega)

Is not a Possibility Case:

St: All A are B
No A are C



Conclusion

Some B are C is not a Possibility. (X)

Check Point
If is a Possibility (✓), is not a Possibility (X)
If is a Possibility (X), is not a Possibility (✓)

Logically does not follow / Definitely does not follow:

- Jo Simply wrong ho.
- But Possibility me Sahi ho Sakte hain.

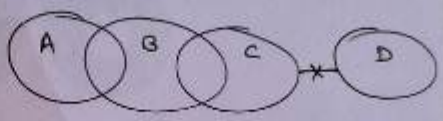
Pyaar Se → LDNF

- Jo Simply bhi wrong ho aur Possibility me bhi Koi Scope na ho...

Isko → DDNF Pyaar Se hi. ☺

Example:

St: Some A are B
Some B are C
NO C are D



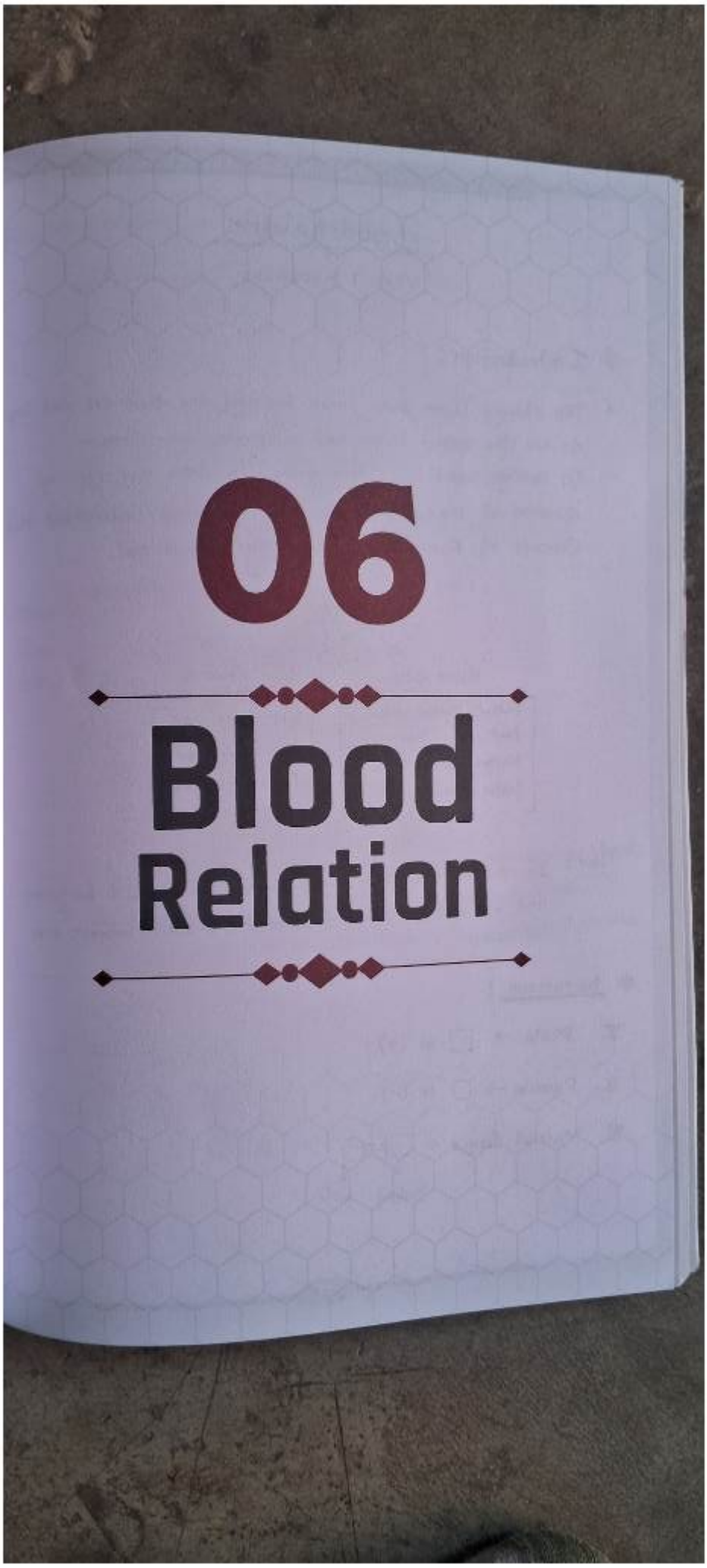
Conc:

I. Some B are D X [LDNF]

↳ Kuch 'B' possibility me D ho sakte hain... is liye LDNF.

II All B are D X [DDNF]

↳ Sabhi B, D nahi hai aur Possibility me bhi nahi ho Sakte is liye → DDNF.


06
Blood
Relation

Blood Relation
(Verbal Reasoning)

Introduction :

- This chapter Comes under verbal Reasoning and there are two ways to ask the question in our bank & insurance examination — (i) Passage Based (ii) Coding Based. To solve any type of Question of Blood Relation we need to know / understand the Concept of "Family Tree". (Flow chart of Relations).

Relations

Blood Relative	In-laws Relative
Father, Mother, Uncle, Aunt, Son, Daughter, Nephew, Neice, Grand father, Grand Mother etc	Father-in-law Mother-in-law Brother-in-law Sister-in-law

Note: In the questions, relation of Several persons will be given and we will be asked to find the relation between two of them.

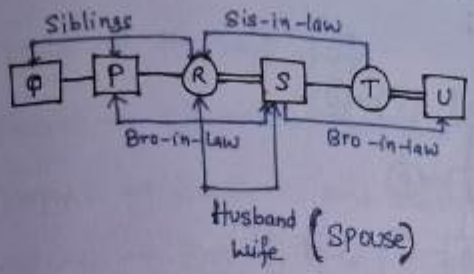
Notations :

I. Male → □ or (+)

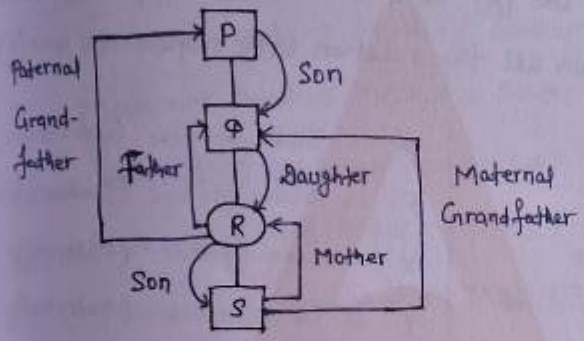
II. Female → ○ or (-)

III. Married Couple → □—○ (Husband, Wife)

IV. Same Generation : [Horizontal line]



V. Different Generation/Generation Gap : [Vertical Line]



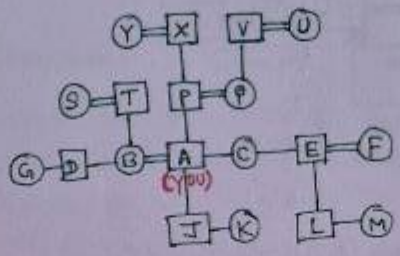
Note: While Solving the question of blood relation topic, remember these two points given below in the sequence they are written and apply them in the same sequence.

* Key Points:

I. Gender Definition (1st Priority)

II. Generation Gap (2nd Priority)

Let's understand different relations with the help of below family tree:



- Suppose you are [A], here in the above family tree. Let me explain all the relation with respect to you [A].

'B' is wife
'C' is Sister
'E' is Brother
'D' is Brother-in-law
'P' is Father
'φ' is mother
'T' is Father-in-law
'S' is mother-in-law
'J' is Son
K is Daughter

'G' is Sister-in-law (wife's sister)
'F' is Sister-in-law (Brother's wife)
'X' is Grandfather (Paternal)
'Y' is Grandmother (Paternal)
'V' is Grandfather (Maternal)
'U' is Grandmother (Maternal)
'L' is Nephew (Brother's Son)
'M' is Niece (Brother's Daughter)

* **Relations which may confuse you:** ☺

I. Siblings → children of same parent

It Can be → Brother – Brother
Sister – Sister
Brother – Sister
Brother – Sister – Brother
Sister – Sister – Brother
Sister – Sister – Sister

II. Parent → Father or Mother / Both.

III. Spouse → Husband - Wife

IV. Cousin → Children of aunt and uncle.

V. Nephew → Brother's and Sister's Son.

VI. Niece → Brother's and Sister's Daughter.

VII. Paternal uncle → Father's Brother

VIII. Paternal Aunt → Father's Sister

IX. Maternal uncle → Mother's Brother

X. Maternal Aunt → Mother's Sister

XI. Paternal Grandfather → Father's Father

XII. Paternal Grand mother → Father's mother

XIII. Maternal Grand-father → Mother's Father

XIV. Maternal Grand mother → Mother's mother.

* Paternal → Means relation is father's side
(Papa)

* Maternal → Means Mother's side relation.
(Mother)

* Note In Case of below mentioned relation (term) we can't define the gender.

↳ Parent / Cousin / Spouse / Children / Sibling.

How to determine Generation order as I, II, III & IV:

Ist Generation	Grandfather (Paternal/Maternal) Grand Mother (Paternal/Maternal)
2nd Generation	Mother, Father, Uncle, Aunt, Mother-in-law, father-in-law Paternal & Maternal - uncle - Aunt both
3rd Generation	Self, Brother, Sister, Cousin, Brother-in-law, Sister-in-law.
4th Generation	Son, Daughter, Nephew, Niece.

Concept to Solve Coded Blood Relation questions:

- Although family tree approach is enough and feasible to Solve the questions of Coded form of blood relation but let's have one more approach as add on.
- **Zero-one Concept**

(i) Symbols which will represent same generation → (0) - zero
(ii) Symbols which will represent a gen. above relation → (+1)
(iii) Symbols which will represent a gen. below relation → (-1)
And so on....

Most Important Points to take Care of

- Always be Careful in defining the gender of Person.
- Don't ever define the gender on the basis of name- If name is Saurav, we Cannot Just say the gender is male.
- Be extra Consious With these words – Siblings, Parent, Spouse, Cousin etc.
- Relation like Brother-in-law / Sister-in-law demands extraordinary alertness and Sometimes assumption or Possibilities.
- Reason → Brother-in-law Can be Sister's Husband (or) Wife's Brother.

  Again Sister-in-law Can be Brother's wife (or) Wife's Sister.

07

Direction Distance

Direction & Distance

↓

(Verbal Reasoning)

Introduction:

- The demand and intention of this topic is to check the "Sense of direction" in you.
- Direction Sense here mean in two ways.
  (i) Right & left (ii) North, South, East, West, NE, NW, SE, SW
- Distance means the measurement of position of one Person/object with respect to another one.
- Shortest Distance/Displacement is the minimum distance between two different Points/Person/object.

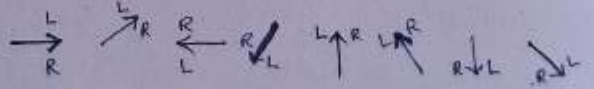
Types of questions:

(i) Passage Based
(ii) Axis Based
(iii) Coded questions.

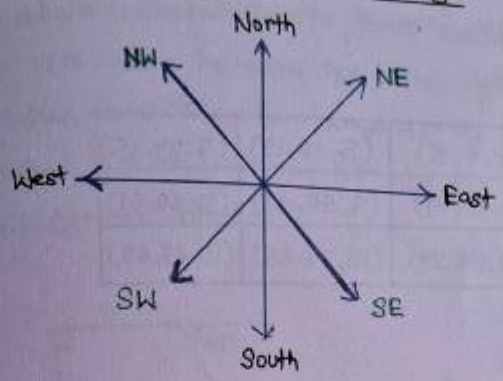
Note: We must be very much efficient in fetching the direction as right & left in any situations.

For this

Always assume yourself at that point with respect to which you need to fetch the direction (left/right).



Let's understand Directions more closely:



- With reference to the above figure, we may classify directions into 3 parts.

(i) Horizontal Direction (East & West)
(ii) Vertical Direction (North & South)
(iii) Subordinate Direction (Northeast, Northwest, Southeast, Southwest)

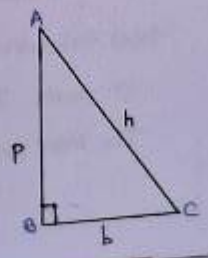
- To find the distance based on horizontal and vertical direction, we don't have to stress much.
- If we asked to find the distance with respect to any subordinate directions, we must have the knowledge of Pythagoras theorem.

* **Pythagoras Theorem**

$h = \sqrt{p^2 + b^2}$

Where,
h = hypotenuse
P = Perpendicular
b = base

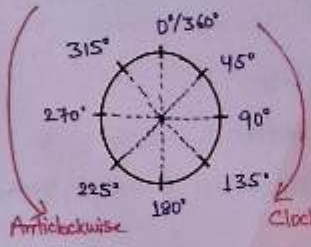
ΔABC is a right angle triangle.



Here are some of the Pythagorean Triplets for quick Solution.

(3,4,5)	(5,12,13)	(7,24,25)
(8,15,17)	(9,40,41)	(11,60,61)
(12,35,37)	(13,84,85)	(16,63,65)

Concept of Angle in Direction:



- Each Sector is of 45°.
- Beaware of clockwise (right) & Anticlockwise (Left) Concept.

* Let's understand this Concept with example questions.

Q A man is facing East. He turns 45° in clockwise direction and another 180° in the same direction. Then turns 270° in the anticlockwise direction and another 135° in the clockwise direction. In which direction is he facing now?

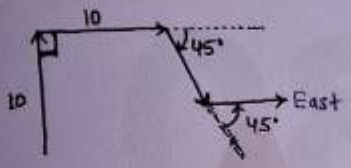
Sol: Total clockwise = 45° + 180° + 135° = 360°

Total Anticlockwise = 270°

It means 360 − 270 = 90° clockwise

The man was facing East. → 90° clockwise means he will face South.

Example que: A man started from a Point walked towards north for 10 m, then he turns 90° to his right and walked another 10 m. Then he turned 45° to his right and walked 5 m and turned 45° to his left. What is his current direction?



08

Seating Arrangement

Seating Arrangement
(Verbal Reasoning)

Introduction:

In this chapter, a Passage would be given about any mathematical body and you will be asked to arrange a set of person/element on the basis of given instruction and clues.

The Passage: (1st Half - Instruction / 2nd Half - clues)

Instruction

- Carries information about the no. of Person/elements.
- Mathematical body used.
- Direction – Persons are facing

clues

- Direct clue – Which can be used directly on the plot.
- Indirect clue – In which we cannot find the direct Conclusion but we can keep these information roughly beside the plot making blocks.

Types of questions

Based on Bounded Bodies

Ex: Circle, Square, Rectangle, Triangle, Pentagon, Hexagon, Heptagon, etc.

Based on linear Bodies

Ex: Straight line (Single Row)
Parallel line (Double Row)

Note: Further, we should keep in mind that Bounded Bodies can be Categories in two parts –

(i) A uniform Body – Circle

→ Since it is an uniform body we can start solving the question from any Place of the figure.

(ii) Sides and Corner Based Bodies – (Square, Rectangle, Triangle, Pentagon etc)

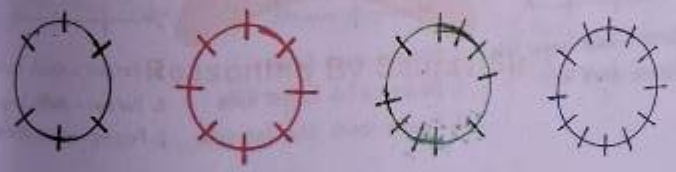
→ Since, these figures have a Common thing i.e. Sides and Corners So, Instructions use to be written Keeping in Side & Corners in all the above figures in Similer way.

Let's See all the possible figures more closely :

(Keeping different direction Situations & different no. of Person in mind)

1) Circular Arrangement: (Even no. of Person)

↳ In this Situation each two person must sit in front of each other.



6 Person | 8 Person | 10 Person | 12 Person

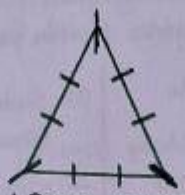
2) Circular Arrangement: (Odd no. of Person)

↳ In this Situation no one will sit in front of each other.

7 Person | 9 person | 11 Person

3) Triangular Arrangement:

1 Person - each Corner
1 Person - each Side

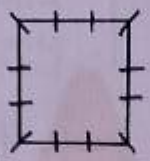


1 Person - each Corner
2 Person - each Side

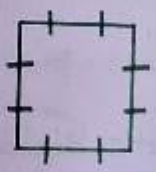
1 Person - each Corner
3 Person - each Side

4) Square Arrangement:

1 Person - each Corner
1 Person - each Side



1 Person - each Corner
2 Person - each Side



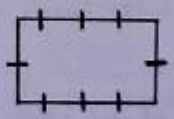
2 Person - each Side

5) Rectangular Arrangement:

2 Person - each longer Side
1 Person - each Sh...

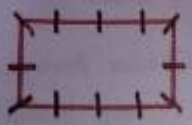
1 Person - each Corner
1 Person - each longer Side
1 Person - each Shorter Side

1 Person - each Corner
2 Person - each longer Side
1 Person - each Shorter Side



3 Person - each longer Side
1 Person - each Shorter Side

3 Person - each longer Side
2 Person - each Shorter Side



1 Person - each Corner
3 Person - each longer Side
1 Person - each Shorter Side

6) Pentagonal Arrangement:

→ Here we should keep in mind, that Sides and Corner are opposite to each other.

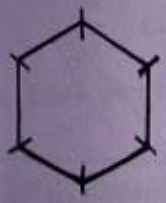
1 Person - each Corner

1 Person - each side

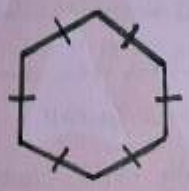
1 Person - each Corner
1 Person - each Side

2 Person - each Side

7) Hexagonal Arrangement:



1 Person - each Corner

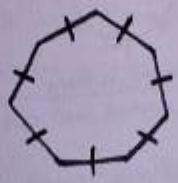


1 Person - each Side

1 Person - each Corner
1 Person - each Side

8) Heptagonal Arrangement:

1 Person - each Corner



1 Person - each Side

1 Person - each Corner
1 Person - each Side

9) Octagonal Arrangement :

1 Person – each Corner

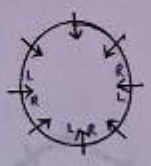
1 Person - each Side

1 Person - each Side
1 Person - each Corner

Basic Concept - 1

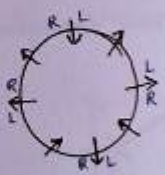
Direction – You need to be very much clear in fetching the direction as left & right.

- To fetch the direction at any point, always assume yourself.
- Kindly avoid Clockwise/Anticlockwise approach to fetch the directions since now a days questions are more tricky and with MIX direction.



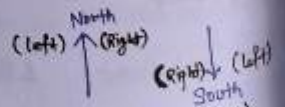
Everyone is facing Inside

Everyone is facing outside



Some Inside Some outside

Note : By assuming at any point it is easier to fetch the direction as left & right, except at the time of Downward cardio (Just reverse of North)



Basic Concept – 2

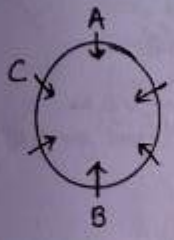
Relative Pronoun Words – Who, Which, Whose, Whom etc.

– These words are used clues and it works like relative Pronoun i.e. it use to Connect with the 2nd element of the Sentence.

Ex:- Let Suppose we have 6 Person (A, B, C, D, E and F) Seating around a Circular table facing Inside.

Clue → A is 3rd to the left of B, who is 2nd right of C.

Here, Who will Connect with 'B' (2nd element of the Sentence)



- We will read the Sentence in two Parts –

(i) A is 3rd left of B.

(ii) B is 2nd right of C.

Basic Concept – 3

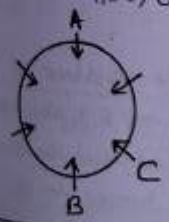
Conjuction Words – and, but, while, Comma (,), (is)

– These words when used, it works like a Conjuction i.e, it use to Connect with the 1st element of the Sentence.

Ex:- Again We will take Same Situation as above example.

Clue → A is 3rd to the left of B and is 2nd right of C.

here, and will Connect with 'A' (1st element of the Sentence)



- Again we will read the Sentence in two Parts –

(i) A is 3rd left of B.

(ii) A is 2nd right of C.

Important Concepts

Imp. Concept 1:

(i) 'A' is 3rd/Nth left/right of 'B'.
- 3rd → gap of 2
- Nth → gap of (N-1)

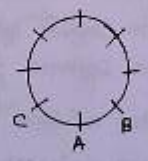
(ii) 'P' is 4 places left/right/away/before/after/ahead/behind 'Q'.
- 4 places → gap of 3 [mean gap of (-1)]

(iii) There are 4 person between 'A' and 'B'.
- In case of between - same gap will be considered. (Means gap of 4)

Imp. Concept 2:

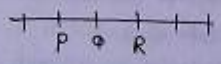
* Neighbour = Next = Adjacent = Beside (आसपास - बगल)
  ↳ Means immediate left / immediate right both side.

Ex:



here, B and C are the neighbour of A
B is next to A whereas C is also next to A
C is adjacent and B is also adjacent to A
Same as, Both B and C are Beside A.

Ex:



Again here,
P and R are the neighbour of Q.
P is next to Q and R is also next to Q.
Both P & R are adjacent to Q.
Both P & R are beside to Q.

Imp. Concept 3 :

(i) A and B faces each other.

{A and B both are bound to face inside.}

(ii) A faces B.

'A' is bound to face inside but 'B' is free to face anywhere i.e, Inside/outside.

(iii) A and B are sitting opposite to each other.

Here, 'A' and 'B' both are free to face any direction. (i.e In/out)

(iv) A is sitting in front of B.

Note: All the above Concept are used only in Case of even no. of person given.

Import. Concept 4 :

In Case of Even no. of Person (i.e, 6, 8, 10, 12 etc) in any bounded body, if clue is given as —

(i) Case of 6 Person — There are 2 person between A and B means A and B will Sit in front of each other.

(ii) Case of 8 Person — There are 3 Person between A and B means A and B will Sit in front of each other.

Always Do — $\frac{(n-2)}{2}$ → Let Suppose $n=8$ (means total no. of person = 8)

$\frac{(8-2)}{2} = \frac{6}{2} = 3$ (Gap of 3 bet^{n} A and B)

Imp. Concept 3 :

(i) A and B faces each other.

{A and B both are bound to face inside.}

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'A' is bound to face inside but 'B' is free to face anywhere i.e, Inside/outside.

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$\frac{(8-2)}{2} = \frac{6}{2} = 3$ (Gap of 3 both A and B)

Example 1

In a Circle 8 Person are Sitting.

It means $n=8$

So, $\frac{(8-2)}{2} = \frac{6}{2} = 3$

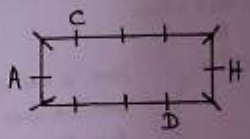
Clue – There are 3 Person betn 'A' and 'B'.

Example 2

Let suppose, in a rectangle 12 Person are Sitting, where 4 are Sitting at the Corner, 3 at each longer Side and 1 at each of the Shorter Side.

Name of Person → (A–L)

Clue – There are 5 person betn A and H.



Note:– In Case of Circle Carrying even no. of Person, it is always that both person will Sit in front of each other but In Case of Side + Corner based figures if No. of Side + No. of Corner = The Value of total no. of Person, then only they will face each other / Sit in front of each other.

For Example: In Case of Square if $N=8$ (Since it has 4 Sides and 4 Corner)

People will Sit in front of each other.

In Case of Rectangle, if $N=8$
In Case of Triangle, if $N=6$
In Case of Pentagon, if $N=10$
In Case of Hexagon, if $N=12$

} Here, we Can make People Sit in front of each other

Imp. Concept 5:

(i) Atleast = Minimum = Not less than (कम से कम)

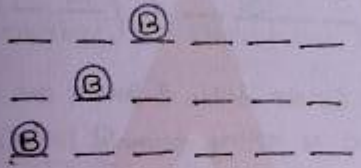
Ex1: Atleast 3 → 3, 4, 5, 6 ..... n

Minimum 3 → 3, 4, 5, 6 ..... n

Not less than 3 → 3, 4, 5, 6 .... n.

Ex2: There are 6 Person (A, B, C, D, E and F) are Sitting in a Straight line facing north.

Clue → Atleast 3 Person Sit to the right of 'B'.



(ii) Atmost = Maximum = Not more than (अधिक से अधिक)

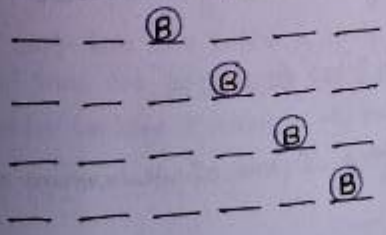
Ex1: Atmost 3 → 0, 1, 2, 3.

Maximum 3 → 0, 1, 2, 3.

Not more than 3 → 0, 1, 2, 3.

Ex2: There are 6 Person (A, B, C, D, E and F) are sitting in a Straight line facing north.

Clue → Atmost 3 person sit to the right of 'B'.



Imp. Concept 6:

→ Exactly between Concept.

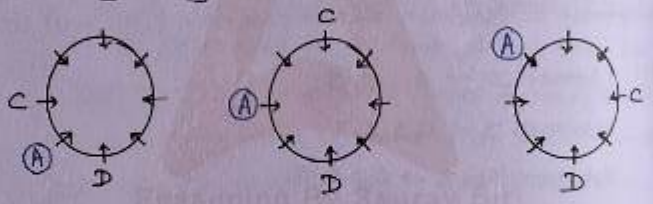
- In this Case, no. of person between two person is always odd. (1, 3, 5, 7 ...)

Clue → 'A' is sitting exactly between 'C' and 'D'.

Ex1: Suppose in a straight line (Single row), 'C' is to the left of 'D' is given.

C (A) D / C _ (A) _ D / C _ _ (A) _ _ D

Ex2: Suppose in a Circular table 8 person are sitting and facing inside where C is sitting towards left of D and 'A' is sitting exactly between 'C' and 'D'.



Imp. Concept 7:

→ In Case of Straight line (Single row/Parallel row) question extreme end clue plays a vital role and this is the most important clue to start with.

Ex1: Clue → 'A' is sitting at one of the extreme end of the row

(A) _ _ _ _ _ _ _ (A)

means, it can be at either left or right end of the row.

Ex2: clue → 'A' is sitting at the left end of the row (facing North)

Ⓐ — — —

Ex3: clue → 'A' is sitting at the right end of the row. (facing North)

— — — Ⓐ

Ex4: clue → 'A' is the only neighbour of 'B'.

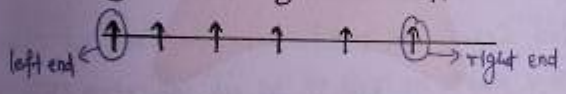
Ⓑ A / A Ⓑ

Always remember, 2nd element will be at the end.

Imp. Concept 8:

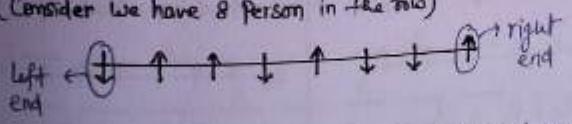
→ Left end / Right end in Straight line (North / South / Mix Direction).

Ex1: When everyone is facing North. (Suppose we have 6 Person)



Ex2: When everyone is facing South. (Suppose we have 6 Person)

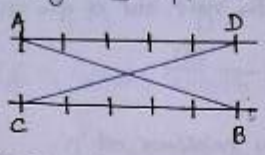
Ex3: When Some are facing north and Some are facing South. (Consider we have 8 Person in the row)



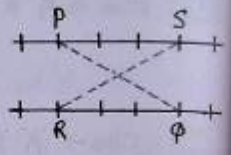
Note: In Mix direction Situation, direction left/right use to be taken as North Situation.

Imp. Concept 9:

(i) 'A' is diagonally opposite to 'B'



But



Here, (A, B) and (C, D) are diagonally opposite.

In this situation, (P, Q) and (R, S) Can't be Considered as diagonally opposite.

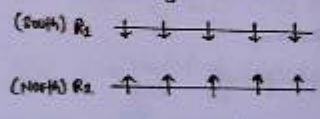
Note: Only end-to-end elements are Considered as diagonally opposite Condition.

(ii) In Parallel row questions, Sometimes instruction of the question don't Clarify about the bifurcation of People Sitting in each row.

In Such Cases, we need to take Care of clues which are using Row I or Row II as an indication/hint. Because with the help of this info we Can identify the name of People Sitting in each row.

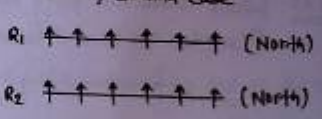
(iii) Different Cases in Parallel row:

(A) Facing each other Case



Here, R_1 & R_2 is facing each other.

Ahead/Behind Case



Here R_1 is ahead of R_2 and R_2 is behind R_1.

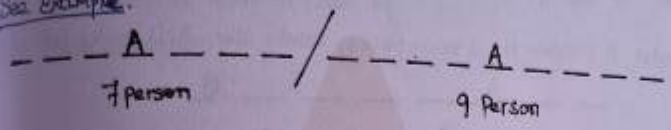
* Imp. Concept 10 :

* In Case of Straight line :

(i) The no. of Person Sitting to the left of A is same as no. of Person to the right of A.

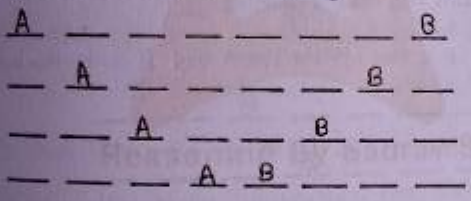
[This Case is only applicable on odd no. of Person in a row
└ Ex- 3, 5, 7, 9, 11 etc.]

See Example :



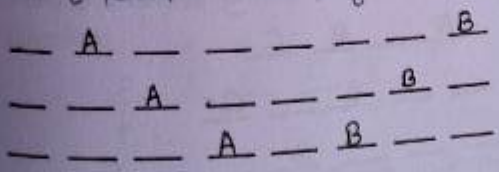
(ii) The no. of Person Sitting to the left of 'A' is same as the no. of Person Sitting to the right of 'B'.

[Consider 8 Person in a row facing north and A is the left of B]



(iii) The no. of Person to the left of 'A' is one more than the no. of to the right of 'B'.

[Consider 8 Person in a row facing north and 'A' is to the left of 'B']



(iv) The no. of Person to the left of A is one less than the no. of Person to the right of 'B'.

[Consider 8 Person in a row facing north and A is to the left of B]

A _ _ _ _ _ B _

_ A _ _ _ B _ _

_ _ A _ B _ _ _

(v) The no. of person to the left of 'A' is two more than the the no. of person to the right of 'B'.

[Consider 8 Person in a row facing north and A is to the left of B]

_ _ A _ _ _ _ B

_ _ _ A _ _ B _

_ _ _ _ A B _ _

(vi) The no of Person to the left of 'A' is two less than the the no. of person to the right of 'B'.

[Consider 8 Person in a row facing north and A is to the left of B]

A _ _ _ _ B _ _

_ A _ _ B _ _ _

_ _ A B _ _ _ _

(vii) The no. of Person sitting between A and B is one more than the no. of Person sitting between B and C.

A _ B C

A _ _ B _ C

A _ _ _ B _ _ C

Imp. Concept 11:

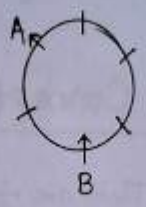
→ (Clue) A is 2nd to the left of B and vice versa.

It means,

A is 2nd to the left of B

and vice versa effect is

B is 2nd to the left of A



Note: This Clue is used in Case of Mix Direction.

Imp. Concept 12:

(Clue) No two adjacent person are Sitting according to alphabetical Series/Order.

It means, A is not beside B, B is not beside A and C both,

C is not beside B and D both etc.

In such case, It is advised to indicate this clue nearby the place where you are Solving the question.

Indicate like → (ABC)

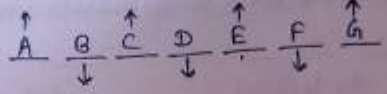
(Clue:) Not more than two adjacent person are facing Same direction.

Ex: D ↓ A ↑ B ↑ C ↓ E ↓ F ↑

It means, max^m two person will face same direction.

Clue: No two adjacent person will face same direction.

It means → Alternate Direction.



Imp. Concept 13:

Clue: There are two person between A and B.

[Consider we have 8 person in a straight line having 9 seats. Everyone is facing North (↑) and A is to the left of B.]

Example Case I. _ _ A _ _ B _ _ _

Case II _ _ A _ _ _ B _ _

In Case I → The Vacant Seat will be either towards left of 'A' or towards right of 'B' not bet^n A and B.

In Case II → The vacant Seat will have to be between A and B because we have taken 1 extra seat.

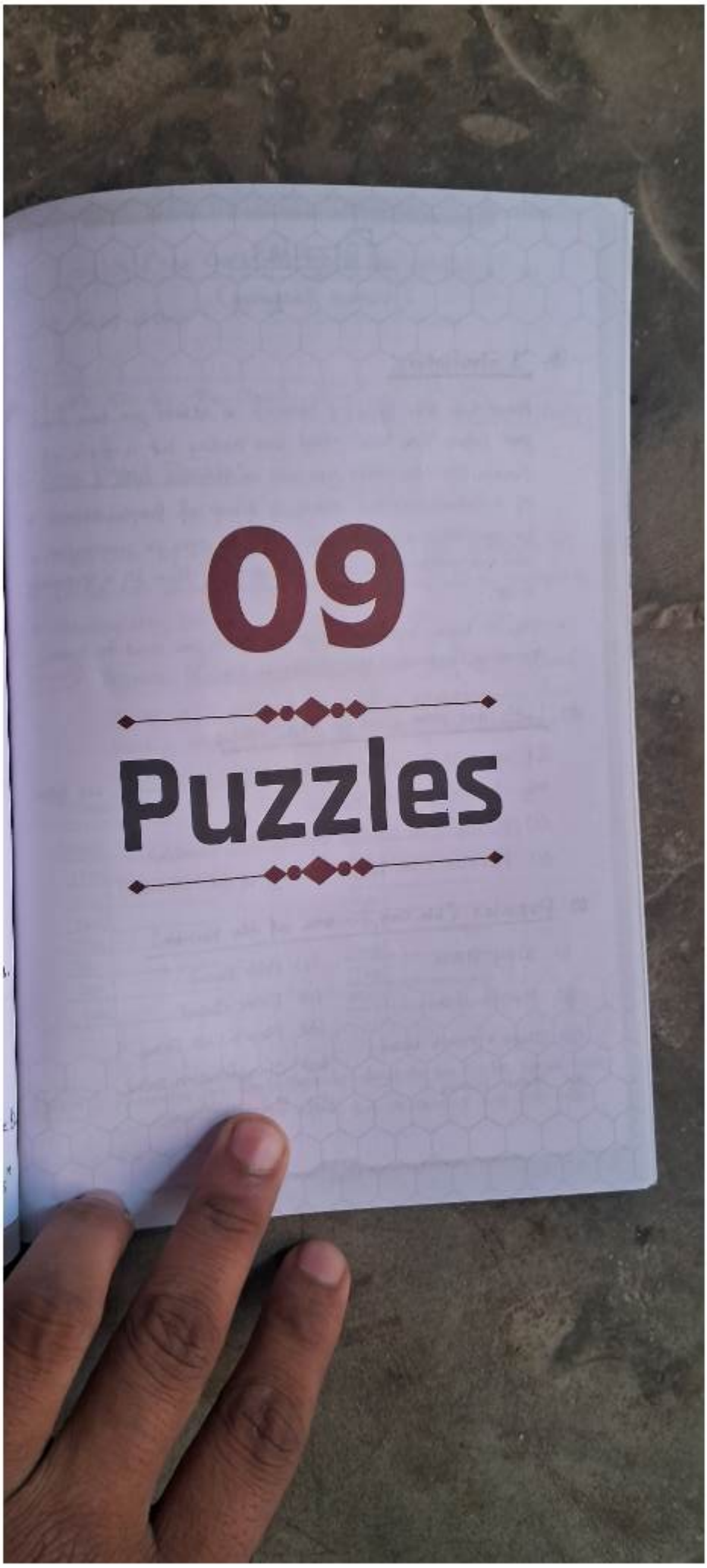
Note: No effect of Vacant Concept on following clues.

(i) There are two Places/Seats bet^n A and B.

(ii) A is 2nd/3rd/n^th left/right of B.

(iii) A 3/4/n^th places away/ahead/behind/after/before B.

"Always Remember Vacant Concept is also used in Puzzles"


09
Puzzles

Puzzles
(Verbal Reasoning)

Introduction:

Have you ever solved a SUDOKU or atleast you have seen your School "Time Table", that was nothing but a form of Puzzle. In this topic you will be provided with a couple of information/clues about a group of People, object or any other element which will be given in Unarranged and unorganized, you need to arrange them in a Systematic order.

- This is highly important topic in which you need to have amazing Command (Non-Skippable Topic)

Let's get more close to this Topic:

If we will try to Categorize Puzzles broadly, we have only two types of Puzzles

(i) Puzzles (We can fix one of the Variable)

(ii) Puzzles (We can't fix any of the Variable).

(I) Puzzles (We Can fix one of the Variable)

(i) Day Based
(ii) Month Based
(iii) Date + Month Based
(iv) Year Based
(v) Post Based
(vi) Floor Based
(vii) Floor + Flat Based
(viii) Classification Based
(ix) Selection Based

(II) Puzzles (We Can't fix any of the variable)

I Box Based   II Comparison Based

Let's See all the variety of Puzzles one by one Specifically

I Day Based Puzzle:

- We need to fix days here
- Take Care of the starting day and end day (Can't be Cyclic)
- It is not necessary that starting day will be Monday only
- Starting Day can be any day of the week

Example: Suppose it is given, 7 person are going to 7 different Places in 7 different days of a week (i) starting from Monday ending on Sunday (ii) starting from Saturday and ending on Friday

⇒ Charting / Table :

Case (i)	
Mon	
Tue	
Wed	
Thu	
Fri	
Sat	
Sun	

Case (ii)	
Sat	
Sun	
Mon	
Tue	
Wed	
Thu	
Fri	

Note: Remember, We Can't consider days to be Cyclic, which means We Can't take Mon after Sun in case (i) and Sat after Fri in case (ii).

II Month Based Puzzle:

- We need to fix months here.
- Take care of no of days of the months given.
- If February is given, check if they have mentioned year to be ordinary or Leap.
- Try indicating months as 30 days / 31 days with any symbol.
- Be alert with terms like – odd no / Even no.
- Questions are framed in 2 Ways:

(i) When given months are Consecutive:

Example: Consider Seven Person are going for interview in Seven different months - Jan, Feb, Mar, Apr, May, June, July.

- This situation is similar to day based Puzzle, nothing much to worry here.

(ii) When given months are Non-Consecutive:

Example: Consider Seven person are going for interview in Seven different months – Jan, Mar, Apr, July, Aug, Oct, Nov.

- In this situation, we need to be extra Careful in Coding the gaps. Let's understand it more closely with example.

Imp Concept: When given months are non-Consecutive:

Jan	
Mar	Q
* June	
July	P
* Sep	
Oct	
* Nov	
Dec	

- Suppose Person 'P' is in July (Given)

Clue 1: 'Q' is 4 months before 'P'
(Gap of 3 months)
[Apr, May, June]

Here, we need to Count those months as well, which is not given. (like - Apr & May is not given but we have to)

Chalo ek or example dekhte hain 😊

Jan	
Mar	
* June	
July	P
* Sep	
Oct	
* Nov	T
Dec	

Again, Consider Person 'P' is in July

Clue 1: 'T' is 4 months after P.
(Gap of 3 months)
[Aug / Sep / Oct]

Note: Did you observe, these symbols (*) in front of the month which is having 30 days. It is just to differentiate months.

III Month + Date Based Puzzle:

- We need to fix Month & Date here.
- Take Care of all the points discussed in month Based Puzzle.
- Now a days, we See one more developed type of question on the Same Concept of Month + Date based Puzzle, i.e. Year + Month based puzzle.
- Let's understand the tabulation/charting of both the types.

(i) Month + Date Based

Example: Consider 6 Person A-F and 3 month – Jan, Feb, Mar 2 Dates – 5th & 10th for each month.

Jan	5	
	10	D
Feb	5	A
	10	D
Mar	5	A
	10	

(ii) Year + Month Based

Example: Consider 6 Person A-F and 3 Years – 2018, 2019, 2020 2 Months – Mar & June.

2018	Mar
	June
2019	Mar
	June
2020	Mar
	June

- It is not necessary that the given months/year will be Consecutive, it can be non-Consecutive as well.
- In Case of non-Consecutive month, Kindly Consider the Concept of month gap Counting as discussed in Previous Subtopic.
- Take Care of odd/Even date term Carefully.
- Imp. Clue → Consider the table & instruction given in the Previous page.
  → Given that → A is Just after D but in different months.
    - It means, we have only 2 Possibility as we have only 3 months given.
  — This Concept is known as "Joining month Concept"

(Note:) • Both the Possibilities have been illustrated in table given in the Previous Page. Kindly refer that.
- The dark line shows – Joining month Concept.
- Joining month will always be one less than total no. of months given.

- In Case of year + Month Base Puzzle, we need to be extra Careful.

IV Year Based Puzzle:

- Here we need to fix years.
- Beaware of the terms like odd/even no. year.
- Concept of leap year should be known.
- Take Care of clues using terms like – older/younger (Above) (Earlier)

* How to determine leap year ?

↳ Consider years in two ways <
- Century yrs (1900/1800/2000 etc.)
- Non-Century years (1965/1990/1823/2012/2017 etc.)

- In Case of Non-century year (Divide last 2 digit by 4)

Eg. $\frac{1965}{4}$ = Not divisible means ordinary year

$\frac{1990}{4}$ = Not divisible means ordinary year

$\frac{2012}{4}$ = Divisible means Leap year.

- In Case of Century year (Divide the year by 400)

Eg. $\frac{1900}{400}$ = Not divisible means ordinary year

$\frac{1800}{400}$ = Not divisible means ordinary year

$\frac{2000}{400}$ = Divisible mean Leap year.

* We have two variety of questions being created in this Segment

(i) Year Base Puzzle (Without Base year)

(ii) Year Based Puzzle (With Base year)

{In this case, we need to Calculate the date with respect to the Base year given}

* Important: [Always Remember]

- Given years ko ek Proper Sequence me hi set karna hai matlab sabse dur wala year upar and sabse nazdik wala year sabse niche.

[From Top to Bottom → Farthest to Nearest respectively]

Example: – Year Based Puzzle (without Base year)

Consider 8 People born in 8 different years.

8 People – A, B, C, D, E, F, G & H.

8 years — 1975, 1978, 1984, 1987, 1992, 1995, 2000, 2005.

Clues → A is older than B, who is born in a leap year.
There is one person between A and B.

It means: A can be anywhere above B.

Since, We have 3 leap years, 3 Possibilities of B will occur.

1975	A			
1978				
* 1984	B	A		
1987				
* 1992		B	A	
1995				
* 2000			B	
2005				

Example: – Year Based Puzzle (WITH BASE YEAR)

- In the above example – Consider Base year as 2025.
- Rest of the instruction & clues are same except one clue.

1975	50	A			
1978	47		C		
* 1984	41	B	A	E	
1987	38				
* 1992	33		B	A	
1995	30				
* 2000	25		D	B	
2005	20				
		X		X	

Additional clue →

- The age difference between A and C is 6 years.
- B is 8 years older than D.
- Elder → Above
- Younger → Below

II Post Based Puzzle:

- We need to fix Post/Designation here.
- Always Keep highest Post on Top & lowest Post at bottom [illegible]
- Top to Bottom → Decreasing order of Designation Respectively
- Take care of the terms like – Senior / Junior.
- Terms like – Seniormost / Juniormost
  - Just Senior / Just Junior
  - Immediate Senior
  - Immediate Junior

Example:

Consider 7 People work in a Company on 7 different Post.

7 People → P, Q, R, S, T, U & V.

7 Post → GM, DGM, AGM, CM, SM, BM, PO

Clues → P is Senior to CM but not Seniormost Person. R is 3 Post Junior to P. Q is Just Junior to P.

Since, P is Senior to CM but not Seniormost, we will have two possibilities for P. (P = DGM or P = AGM)

GM			
DGM		P	
AGM	P	Q	
CM	Q		
SM		R	
BM	R		
PO			

VI Floor Based Puzzle

- We need to fix floor numbers here.
- Numbering of floors should be done from bottom to top.
- Bottom most floor will be 1 and topmost floor will be the highest floor no given in the question.
- Take care of the terms like – odd no floor / Even no floor / Prime no floor.
- Sometimes Ground floor is Considered as 0 (Zero) but it will be mentioned in the question.

Example:

Consider 7 People living in a building on 7 different floors.

7 People → A, B, C, D, E, F and G.

7 Floors → Ground floor 1, followed by 2, 3, 4, 5, 6, 7.

Clues → A is living on Prime numbered floor below 7th floor. C is two floor below A. Atleast 4 Person live between C and D

	I	II	III	
7		D		
6		D		
5	A			
4				
3	C	A		
2			A	
1		C		
	X		X	

VII Floor + Flat Based Puzzle:

- We need to fix floor & flat both.
- Take care of flat orientation properly
- Flat orientation – A is west of B [A][B]
  – A is east of B [B][A]
- Take care of Directions Carefully.
  – North – East – NE – SE
  – South – West – NW – SW

- North / South — Same flat
- East / West — Same floor

* Let's discuss some important clues :

(1)

	P	Q	R	S
4	C	B	C	B
3				
2				
1		A	A	

- There are two floors between A and B, where B lives on an even no. floor. B lives to the east of C

Con't A, B ke niche 1st floor par koi bhi flat me ho sakta hai.

(2)

Flats

	P	Q	R	S
4	C	B	C	B
3	D			
2	D			
1		A	A	

- D is northwest of A

Con't D can be at 2nd floor or 3rd floor there would be 2 possible situations

	P	R
4	C	G
3	F	F
2	D	
1	E	A

- D is just northwest of A.
- E is South of D
- F is two floors above A.

Con't 2 possible situation for F.

	P	R
4	C	B
3	F	G
2	D	H
1	E	A

- No. of floors above F is same as no of floors below H and both be in different flat
- F is on the same floor of G

III Box Based Puzzle

- We can't fix any variable here.
- Sometimes, they instruct for numbering. Pay attention and if required do the numbering.
- We can find similarity between Linear seating arrangement and Box Based Puzzle.
- Since, Both have independent approach.
- Important terms — Stack (ढेर) / Shelf (रैक)
- Questions are framed using term — Box in/ Shelf.
- There are three possible ways, they use/put instructions which might confuse students.

(i) Instruction don't talk about numbering of Boxes / Shelf

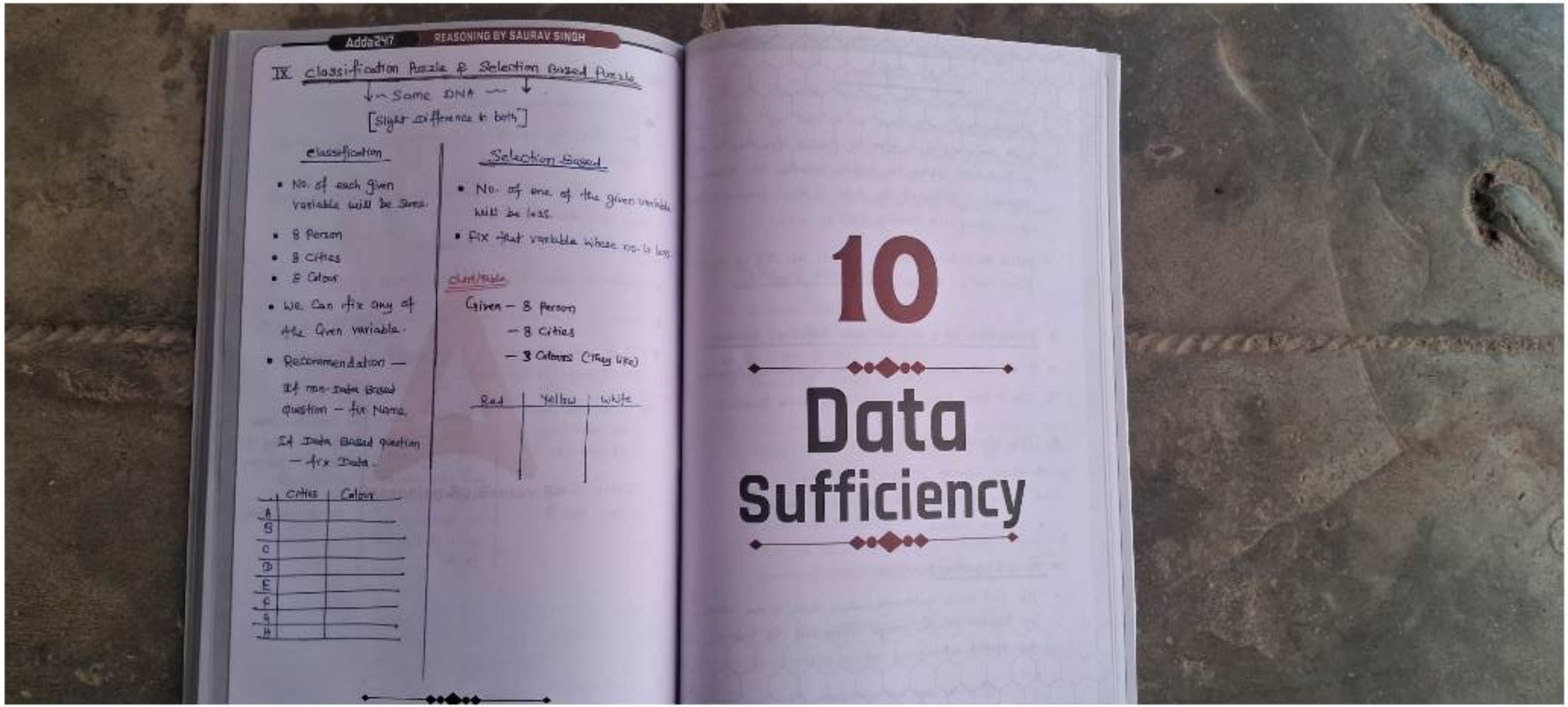
Independently Solve करना है।

(ii) Instruction talked about numbering of Boxes/Shelf and clues also have used it.

DO Numbering as we do in flow based Puzzle.

(iii) Instruction talked about numbering of Box/Shelf but clue did not used it.

Solve Independently


Adda247 REASONING BY SAURAV SINGH
IX Classification Puzzle & Selection Based Puzzle
↓ Same DNA ↓
[Slight difference in both]
Classification
• No. of each given variable will be same.
• 8 Person
• 8 Cities
• 8 Colour
• We can fix any of the Given variable.
• Recommendation —
If non-Data Based question — fix Name.
If Data Based question — fix Data.
Cities | Colour
A
B
C
D
E
F
G
H
Selection Based
• No. of one of the given variable will be less.
• Fix that variable whose no. is less.
Chart/Table
Given — 8 Person
— 8 Cities
— 3 Colours (They like)
Red | Yellow | White
10
Data
Sufficiency

IX. Classification Puzzle & Selection Based Puzzle

↓ ~ Same DNA ~ ↓

[Slight difference in both]

Classification

- No. of each given variable will be same
- 8 Person
- 8 Cities
- 8 Colour
- We can fix any of the Given variable
- Recommendation —

  If non-Data Based Question — fix Name

  If Data Based question — fix Data.

	Cities	Colour
A		
B		
C		
D		
E		
F		
G		
H		

Selection Based

- No. of one of the given variable will be less.
- Fix that variable whose no. is less.

Chart/Table

Given — 8 Person

— 8 Cities

— 3 Colours (They like)

Red	Yellow	White

10

Data Sufficiency

Data Sufficiency

Introduction:

Data Sufficiency is a type of Problem designed to test a Candidate's ability to analyze whether the information provided is sufficient to solve a given problem rather than solving the problem itself.

"Matlab Pura Solve karna zaroori nahi hai, Sirf ye check karna hai ki, Answer aa rha hai na" 😊

* Presentation of a Standard Data Sufficiency question

I. A statement contains a question to be addressed/answered.

II. Two or more pieces of information/data provided.

* This chapter Includes topics like:

- Blood Relation
- Puzzles
- Coding - Decoding
- Seating Arrangement
- Direction - Distance

* Real objective: (असल उद्देश्य)

- The goal is to determine which data, either alone (or) together provides enough information to answer the question asked.

(Note) Generally students, either take this topic so lightly or take it as tough but let me tell you, this is one of the most productive/scoring chapter in MAINS exam.

Moreover, this is an easy chapter if you don't take it lightly.

* Types of questions:

(i) 2 Data Based

(ii) 3 Data Based

(iii) 5 Data Based

(iv) Redundant Concept Based

(Imp) "The most important and classic question of this topic is 2 Data based followed by 3 Data Based and Redundant Based. The 5 Data Based questions seems to be tough but not actually, they just appear to be bulky.

But, we shall practice each and every variety of questions to ensure marks in the examination.

"Saare khel options ke sath khelne ka hai"

Don't take options of D.S questions in take no.

Ab muskurao aur aage padho 😊

* Let's understand option's game property :

- A general option set is given and explained below.

A. Data in Statement I alone is Sufficient while the data in Statement II alone is not Sufficient to ans the question.
↳ Agar Ist alone answer de rha ho but 2nd answer nahi de rha.

B. Data in Statement II alone is Sufficient while the data in Statement I alone is not Sufficient to ans the question.
↳ Agar IInd se answer aa rha ho but Ist se nahi aa rha ho.

C. Data either in Statement I or Statement II alone is Sufficient to answer the question.
↳ Agar Statement I alone and II bhi alone answer de rha ho.
↳ Dono statements se agar answer different bhi ho to chalega.

D. Data given in both the Statement I and II together are not Sufficient to answer the question.
↳ Agar dono statement mil kar bhi answer nahi de paaye.

E. Data in Statement I and II together are necessary to answer the question.
↳ Jab dono ko milakar answer aa rha ho.

* Example Questions - [To understand options clearly]

Q1) Six boxes A, B, C, D, E and F are kept above one another such that the bottommost box is numbered as 1 and the topmost box as 6, but not necessarily in the same order. Which box is kept just below D?

Statement I: E is kept three places below F, which is an odd no box. A is kept just above E. One box is kept between D and A. D is not kept below F.

Statement II: F is a Prime numbered box. Two boxes are kept between D and E, which is kept below C.

S+I:

6	D		
5	F		
4	A	D	
3	E	F	
2		A	
1		E	

On the basis of information given in Statement I we have,
2 possibilities and in both D is just below B.
Hence, we will Consider it Correct.

S+II:

6				D
5			F	F
4	D		D	E
3		F		E
2	F	E		
1	E		E	D

On the basis of information given in Statement II we have,
Numerous possibilities but no of them is clear nor giving idea of the asked question. Hence, can't Consider.

Ans
Only Ist sufficient / option A.

Q2) Seven person A, B, C, D, E, F and G Joined an MNC on Seven different days of a week starting from Monday. Who Joined MNC on Sunday?

Statement I: At most two persons Joined before B. Two persons Joined between B and E. C and A Joined after E. F Joined immediately before G.

Statement II: G Joined two days before C, who Joined immediately before A. F Joined on Wednesday. Two persons Joined between E and B. G and B do not Join on Consecutive days.

(St-I)

	I	II	III
Mon			B
Tue		B	F
Wed	B	F	G
Thu		G	E
Fri		E	C/A
Sat	E	C/A	A/C
Sun		(A/C)	(C/A)

X (under I)

On the basis of information of Statement I we have 3 Projections – I, II and III. Ist got Cancelled. II & III are having Possible answer for the question asked. Hence, can't Consider.

(St-II)

	I	II
Mon		
Tue	G	B
Wed	F	F
Thu	C	G
Fri	A	E
Sat		C
Sun		(A)

X (under I)

On the basis of information given in Statement, we have 2 Projections – I & II. Ist got Cancelled, but II ~~statement~~ Projection is giving us clear picture of asked question's answer. Hence, will be Considered.

Ans

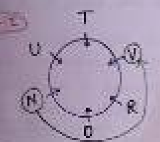
Option – "B" Statement II alone is Sufficient while Ist alone is not Sufficient.

Q3) Six People are Sitting around a Circular table facing Center. Who Sits third to the right of N?

Statement I: R Sits immediate left of V. N Sits immediate right of U. D Sits third to the right of T. U Sits Second to the left of O.

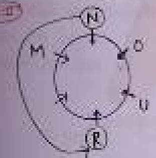
Statement II: U Sits immediate right of R. Two people Sit between U and M. N Sits immediate right of O.

(St-I)



Here, Both the Statements are Sufficient on individual basis to give answer for the question asked.

(St-II)



Although, Dono statement ke answer alag-alag aa rahe hain, but it does not matter. Matter Sirf ye karta hai ki given data/Statement se asked question ka answer aa raha hai ya nahi.

Ans: Either I or II Sufficient – option-C

Gazab Ka Note

Most of the time 'Either or' Judge karne me mistake karte hain Students, matlab agar Statement I Sufficient ho jaaye to uske baad karna ki II Statement ko check hi mat karna.... Ho sakta hai II alone bhi answer de raha ho.... Jaise upar wala Example.

Q4) Eight person C, D, E, F, G, H, I and J lives in a building having 8 floors. The bottommost is 1 and topmost floor is 8. Who lives on 7th floor?

Statement I: C lives on the third floor. The number of people live above C is same as the no. of people live below D. J lives above F.

Statement II: H lives above E. The no. of people live below H is same as the no. of people lives above I. D lives below G.

Floor			
8	H	G	
7	(G)	(H)	
6	D	D	D
5			H
4			I
3	C	C	C
2		I	
1	I		

On the basis of information provided in St-I alone is not sufficient and St-II alone is also not sufficient.
So, we merged both the statement I & II to get the desired answer but we failed there too.

Ans Both data together not sufficient — option-'D'.

Note:

In the above question, when we merged both the data we got 3 cases but none of them were clear. Moreover none of them got cancelled.

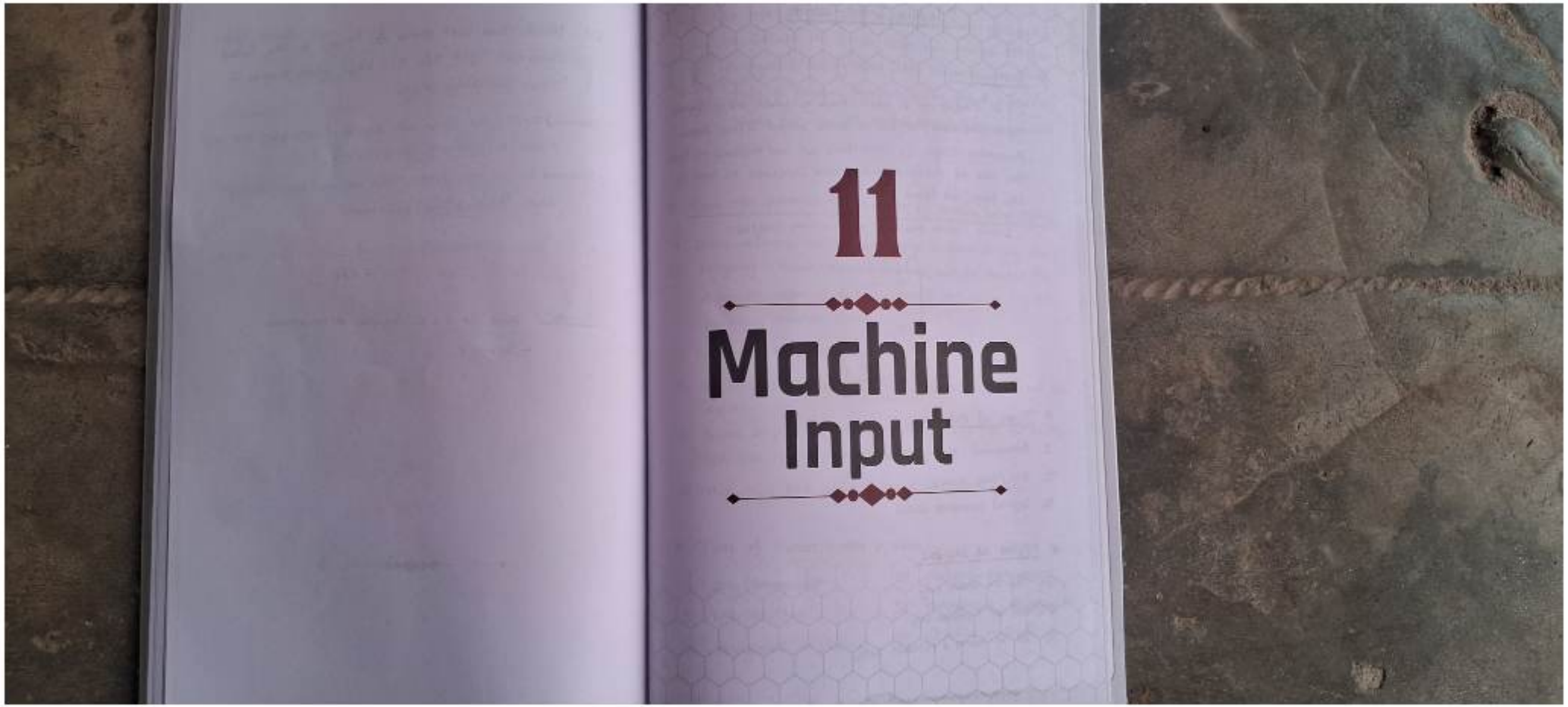
Q5) Which code word stands for 'Trees' in the coded sentences 'gt8 ef2 a31 we6' which means – 'Trees are living things'?

Statement I: In the same code language 'ca7 we6 rv8 gt8' means 'All living things breath'.

Statement II: In the same code language 'hn5 e2 a31' means 'Animals are autotrophs'.

- By using both statement I and II, we can find the code for the word – 'Trees' – ef2.

Answer Both St I & II together are necessary.
option – 'E'.

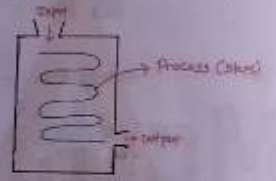

11
Machine
Input

Machine Input-Output

Introduction:

It is similar to a basic machine which takes some input and used to give us some output after some Processing steps. In this topic we are required to have the idea of Coding-Decoding basic Concepts as most of the logic are based on it.

Input ⟶ Process (Step) ⟶ Output



* Types of Questions:

I Arrangement/Shifting Based

II Box/Table Based

III Logical operation Based

* Types of Inputs:

I Set of words only

II Set of Numbers only

III Set of words & numbers both.

Note: Is topic me hum 3 of traditional variety of question Ko Concept me Bnandh Sakte hai... Matlab 3 type- Arrangement/Shifting Based. Iske alawa Jo bhi demand type of questions hain, We random Concept & logic lagy Karte hain yani III Box/Table Based & logical operation Based.

* How to approach the question of machine Input (Type:)

- Demo reference Machine will always be given. It will carry everything - Input / steps / output. We will be required to fetch the logic of steps and output and apply the same on asked question Input.
- What should be our step ?

I Our first step should be to look after the input and its nature.

II Second step is to see the output, which use to be the last step of the given reference.

III Then, third step is to go through the steps given.

* Types of Process involve in steps:

I Only Arrangement

II Only Shifting

III Arrangement — Shifting

IV Shifting - Arrangement

V Arrangement - Arrangement

VI Shifting — Shifting

* Example of Arrangement method

- Arrangement method can be applied from both the directions
  i.e. - Left end - Right end

Question Input - 40 56 12 21 38 46 72

Step I: 12 40 56 21 38 46 72

Step II: 12 21 40 56 38 46 72

Step III: 12 21 38 40 56 46 72

Step IV: 12 21 38 40 46 56 72

- Step IV will be treated as final step/output for the given Input.
- Auto Arrangement can be seen in Arrangement method.
- In the above Input, See Step III, where 40 has been arranged automatically.
- Furthermore - In Step IV, see 56 & 72 they have also got arranged automatically.
- That why the total no of elements were Seven (7) and machine was processing any element in one step, then also Process got Completed only in Four (4) steps. Because 3 elements/Numbers 40, 56 and 72 got arranged automatically.

Remember:

- "Second Last step is also known as Penultimate step"

* Example of Shifting method

- Shifting method can also be applied from both the directions
  - left end - right end.
- Auto Arrangement is not possible here.
- Exceptionally only in Step-I, Auto arrangement can be done in Shifting method.

Question Input - 40 56 12 21 38 46 72

Step I: 72 40 56 12 21 38 46

Step II: 56 72 40 12 21 38 46

Step III: 46 56 72 40 12 21 38

Step IV: 40 46 56 72 12 21 38

Step V: 38 40 46 56 72 12 21

Step VI: 21 38 40 46 56 72 12

Step VII 12 21 38 40 46 56 72

- Step VII will be treated as final step or output.
- Since, there was no auto arrangement in any step and each step Processed one element, it took Complete 7 Steps, one for each element.

Note: To make Command over this topic there can be the Concept of Coding and Decoding and practice good no of questions.

12

Logical Reasoning

Logical/Critical Reasoning

Introduction:

- Critical Reasoning Section Intend to check your Skills in identifying an argument, evaluating statements, reaching at a Conclusion and formulating an appropriate Course of Action.
- It is an important Section of reasoning, Which is asked in almost all the Bank & Insurance examination, Particularly in higher Phase of exam like Phase-II (MAINS).
- Questions often appears tricky and Students don't Pay attention much on this topic, but if Approached with right technique, it can give us good return as marks.
- It demands to have the ability to think clearly being unbiased and understanding the logical Connection between the ideas given.

* Common terms used in Critical Reasoning:

I. Course of Action: (समाधान)

- Statement's Nature – Problematic situation
- Given Course of Action – Finding Solution of the Problem.
- In Simple language – Statement will Carry Problem and Course of Action will have Solution, hence we need to find the feasible and Practical Solution.

Points to Keep in mind while Solving COA questions

- Always assume yourself at the place of higher authority of the Problem Concerning department.
- A Correct Solution should either reduce the Problem or improve the Situation Created by the Problem.
- Never take any harsh action for anyone.
- Never go against the government rules/norms
- A Course of Action should be feasible and should relate to the Practical aspect of life and hence the given Problem.

II. Argument (तर्क)

- Statement's Nature – Issue Based situation
- Given Argument – Either Strong or Weak.

Note: Issue means – A type of Problem, which we are unable to Solve.

* What is Strong Argument?

- A type of argument which carries universal fact, Practically and logically feasible Points.
- The most important point is that it must have a reason in it which is relevant to the given situation.

* What is Weak Argument?

- A type of argument which is illogical, impractical, irrelevant and absence of universal facts.
- It may not be directly related to the statement or situation given.
- It can be opinion based, ambiguous or superfluous.

* Strengthening an argument

- Adding additional facts, statistics, expert opinion or examples that support the given argument.
- Anticipating and disproving potential objections.
- Improving the quality of premises.

* Weakening an argument

- Process of reducing the logical strength of argument.
- Insufficient Evidence.
- Negating the given argument. Contradictory data.

III. Assumption: (पूर्वधारणा / पूर्वानुमान)

- An assumption is something usually taken for granted or presupposed.
- It is the hidden or unsaid part of the statement which a person assumes, to be understood by the listener/reader.
- Assumption is dependent on our past experience.

IV. Inference: (अनुमान)

- It is a type of conclusion we draw depending on our observation.
- It used to draw conclusion about the unknown information or facts on the basis of known.
- Inference is more like moral of the passage, not directly written anywhere in the passage but it is the deduced meaning.

V. Cause & Effect: (कारण एवं प्रभाव)

- Cause means 'the reason' for something to happen.
- Effect means 'A change that is caused by something' or we can say - Result of something being done.

- Presentation of question of this topic is a bit tricky.

- Presentation of question/options
- Choosing correct option in this type of question is a tricky part
- Let's take a general option set here.

(A) If statement I is the cause and statement II is its effect.

(B) If statement II is the cause and statement I is its effect

(C) If both statements I and II are independent causes.

(D) If both statement I and II are effect of independent cause

(E) If both statement I and II are effects of some common cause

Note:

Words like – best, only, each, any, Definitely, Every which when shows rigidity in any type of critical reasoning questions, should not be given importance.