

Syllogism

- 2 or more statements are given & 2 or more conditions

Based on the statements we need to choose valid conditions.

- Syllogisms $\xrightarrow{\text{method 1}}$ Venn diagram
 $\xrightarrow{\text{method 2}}$ Income expense

- types $\xrightarrow{\text{normal}}$ IE
 $\xrightarrow{\text{possibility}}$ Venn

- In conclusion there are words like - can be

- being a possibility } then Possibility sum
- being a chance }

ii) If they aren't in conclusion
 \downarrow
Normal sum $\xrightarrow{\text{apply}}$ IE
Venn $\xrightarrow{\text{apply}}$

IE method

- ~~There are 2 elements~~ Every statements have 2 elements
- There are 4 words that are most imp.
- There is an imp table of those 4 words
- Statements are Income & Conclusions are Expense

Teacher's Signature

Statements) Alternative means the actual relationship (that's also relationship)
Here

→ if we have everything → 100%
 If we have nothing → 0%
 → most imp rule $I \geq E$ (must)

IE method Steps

- i) Point out elems (2 elems) & write down E_1, E_2 below them.
- ii) Point out 4 words (there can be any 4 or any of 4 or more than 4 words)
- iii) Draw the table
- iv) Depend upon the 4 words from the table & the price of elems, write down the price of elems at statements & conclusions.
- v) Now check the statements,

a) ~~Find~~ There are 2 elems in each S. The 2 elems of S & C will match with elem
 b) Find which S has both 2 elems.
 c) See the S & C are satisfying $I \geq E$.
 - this condition or not.

d) If satisfying that C is valid (there can be 1 or more valid C_s)

a) If a statement doesn't have both 2 elems., then the cases can be like -
 by 1 elem in 1 Statement, another elem in another S. (∵ as 2 elems, there will be 2 S, but 3 or 4 etc)

e.g., $\{A, B\} \cap \{C, D\} = \{B\}$

In this case, see which ele

is common in both of S. (Here, B)

d) In that common ele see the price of common ele at each S. i.e. prices can be -

- i) 50 - 50 X
 ii) 50 - 100 ✓
 iii) 100 - 50 ✓
 iv) 100 - 100 ✓
- } i.e. there must have to be 1 ele that has 100-; otherwise cancel the 'C' as invalid only.

e) Now, again check the $[I \geq E]$ is satisfying or not. i.e. 1 statement has 1 ele, check it is satisfying the rule in 'C' or not; similarly another statement has another 1 ele, check it is satisfying the rule or not.

f) If it satisfies the rule, it's invalid 'i', otherwise not. (one 'S' can have no valid 'C' as well).

Case 3

If you think that a 'S' can have no elems, that not possible, as 1 S must have 2 elems & those 2 elems should be equal with the 2 elems of 'Conclusions'.

If they don't match with the elems of 'C's' then it's implying there are more than 2 elems overall (in state & corr.)

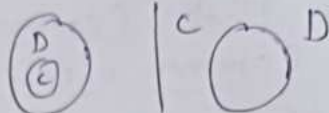
That's not possible

Statement +) [Alternative means, the actual relationship between them]

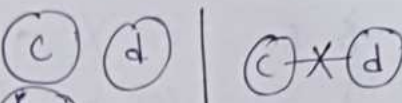
but having no match is impossible as we can't solve the problem then.

Venn diagram method

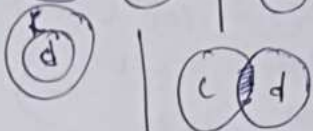
i) All cats are dogs



ii) No cats are dogs



iii) Some cats are dogs



iv) Some cats are not dogs



Venn diagram method Steps

→ From statements draw the venn diagram. There can be 2 or more statements / conditions, draw all conditions in 1 dig: for 2 / more S we can't have separate dig.

→ See conclusions & see if the concl. is true or not from that dig (1st dig). It can be correct or can be wrong.

→ Now if it's correct, there is some statement ~~for~~ draw the alternative from the 1st dig (2nd dig) for that conclusion & see whether it's correct or not.

→ Now the cases can be, this (→) & based upon situation, the sol. is beside.

1st dig	2nd dig
✓	✓ → valid
✗	✓ → valid
✗	✗ → not "
✓	✓ → " "

ints are given }

Now there are some imp points about cat.

- If from the 1st dig we can't give the conclusion / can't say that, but if we draw the alternative from the 1st dig (i.e., if that 1st dig is not true. ~~for that c.~~, the alternative is true, so that's why the c is not true), we can say it's true (Same for vice versa). \rightarrow It's a valid

Eg A is C All B can be A

Alternative

A ⊆ B

Now

(4) This is C.

Can be correct

Valid

- If all are possible \rightarrow X (Not valid)

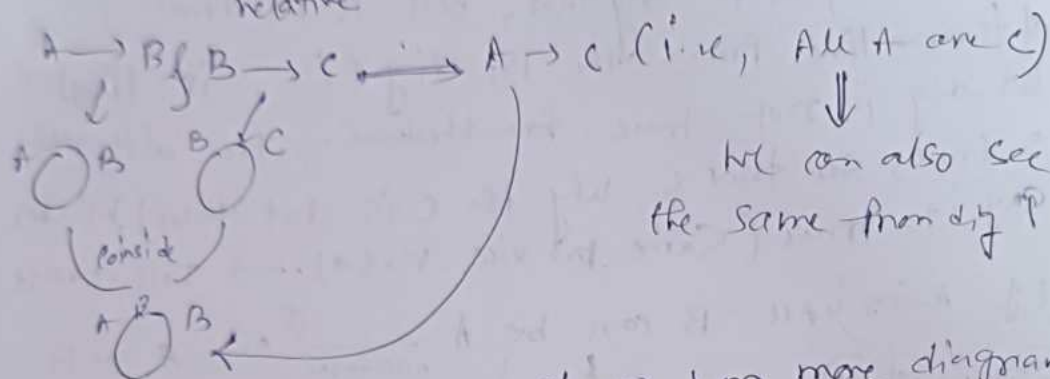
not possible $\rightarrow X(n)$

If 1 possible & not possible \rightarrow ✓ (valid)

② 90% ☒ can be anything we don't know

- Alternative means relation b/w them (the statements from which we have drawn 1st dig) [Another's trial, when it's alternative think the relationship from the last ex, eg Some C can be B (p.m. dig) Alternative All B are C (that's also relationship, P statement)] . Alternative means the actual realization of them.

- when there is no direct bc., then it looks like func. dependency (in DBMS), i.e., relative



- For Statements we can draw 1 or more diagrams based upon the given ~~con~~ conclusions.

① the 3 venn dig's (0 0 0) or more venn dig's are possible or can say, is the case where we are drawing more than 1 dig's from the statements, because to match the conclusions. In that case, no need to draw alternative for C. we can just do this

$\begin{matrix} 0 & 0 & 0 \\ \wedge & \times & \vee \end{matrix} \rightarrow \text{valid}$

$\begin{matrix} 0 & 0 & 0 \\ \vee & \times & \wedge \end{matrix} \rightarrow "$

$\begin{matrix} 0 & 0 & 0 \\ \times & \vee & \times \end{matrix} \rightarrow "$

$\begin{matrix} 0 & 0 & 0 \\ \wedge & \times & \times \end{matrix} \rightarrow \text{not } \wedge$

$\begin{matrix} 0 & 0 & 0 \\ \vee & \vee & \vee \end{matrix} \rightarrow "$

There is another method of venn dig

→ Draw main dig, draw dig from concl., see whether that dig is satisfying the S, or not.

(don't draw this alternatives too)

→ Then take decision from that (✓ or ✗ on the line this cons)

- In ~~Ques~~ i C, if the C. is ~~relate~~ directly related (A C. can be directly related, if it's directly related to S, i.e., the eles are same), then consider it's corresponding S. (i.e., the S. with same eles) & draw dics from there & do a ths x ✓ & derive the ans.

Eg. ~~S~~ Some A are B.
 2. Some B are C.
 1. All A can be C (not directly related with S.)
 2. All B can be A (directly related)

- In Some Cs we don't need to check any other possibilities, ∵ the C. is simply not possible as the statement given is totally opposite & implying that the conclusion is not possible. Then simply ✗ it.

eg. Here, \leq Not A can be B.

But $\rightarrow @ B \rightarrow$ It's implying there must be some common b/w A & B, so that C. is simply not possible.

• Some means overlapping

- When everything is 'x', we need a '✓' then from that C draw the C's dig & SRE in that dig we are able to draw statements or not, if able will get a '✓'.

- Same, if everything about a C is '✓', we need a 'x' then, try to draw dics from main dig & tally

the c's. Here, from c's dig drawing s's dig will be worthless as it's gonna give ✓ as we are drawing s's dig from c's dig, so the dig satisfy c.

Tips

From the s. if we can derive something (c) for sure, we know it for sure & at c. it is given as possibility, then directly mark it as wrong.

eg, Some A are not B

Some A not being B is a Possibility. we are sure that some part of A will not be, but still they have given it as Possibility. So direct → X

• $(A) \times (B) \times (C)$
 $(A) \times (B)$ $(A) \times (C)$ } While drawing see the s. are getting satisfied or not.

Ans All

② Coding-decoding

• Reverse position = $27 - \text{the actual pos. of the alphabet/letters}$

• Types (majority types)
 → Letters/alphabet
 → Numbers
 → Symbols
 → Group/group of words/letters
 → Miscellaneous

• Solving types

① Converting can be there
 $+1 +1 +1$
 $+2 +2 +2$ } like this &
 $+1 +2 +3$ } So on

② CAT \rightarrow TAC (Reverse)

⑦ CA + ACD MB → MB CA + ACD (shuffle)

like this
(90% rest
the combination
of 90%)

- Ascending order \approx Alphabetical order
- Numbers \rightarrow in general means the position of letters.
 - ① reverse pos. of letters
- In the ans of symbols we'll not only take the help of m, but also will take the help of options
- In symbols, Dog \rightarrow #d/, doesn't mean D \rightarrow #, O \rightarrow v, g \rightarrow /. which alpha. can be which symbol, to determine that we need to see the repetition of alphas & symbols, and make an assumption of which symbol can be which symbol & tally the assumption with options to get the correct option.
- The ans, containing another lang, do same things like symbols (see what is repeating in both sides)
 - \rightarrow tally them & determine which words/group of words can be which lang (group of words / word)
 - \rightarrow Find ans
- Similarly, there can be numbers ~~there~~ on one side of word or group of words, at others side at
- If we are not getting ans by adding (ann. pos. then make them 1 digit & add

- When there will be relation or cod
can say the coded word will be big,
Simply do $W \rightarrow YC$. [No word
corresponding
coded word.]

eg $\begin{matrix} S & A & V & E \\ \downarrow & \downarrow & \downarrow & \downarrow \\ P & V & O & M \end{matrix}$

After this, put the coded words for asked word
→ tally with OP → find ans.

- While decoding, the 1st & most imp thing to
remember that, if the no. of letters in the words &
no. of letters in the coded word are same or
not.
- If the coded words are the combination of
words, has, and, no -- like this, check if the vowels
are converted into nos? consonants are converted
into nos & -- etc like this, i.e. some special
specific cases (try to find that)
- If not asked colors of something, the ans. is
from which the color is derived, i.e. the root colors
not the further colors. (eg, white means red / colors of
when 'called' is there that means 'brightly' $\begin{matrix} \text{red} & \text{pink} & \text{human blood} \\ \text{leaf} & \times & \end{matrix}$ → white)
- 3) Blood relations
- If "introduce someone as ..." like this type's there,
the best approach is -- trace from last.
- If there the relations are in the form of egn
& the ans of qn is also egn \rightarrow Best approach =

Draw a dig for each option.

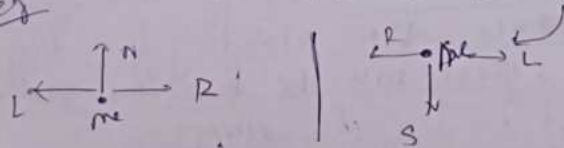
Eg 92 - If A # B means A is the mother of B, then, which of the following means P is the maternal uncle of Q.

- If the family info is given & Same Qns (4-5) are asked we need to

Draw a one family tree & ans all of the Qns

④ Direction

- total angle = 360°
- whenever I turn Left or Right, if the angles aren't mentioned, I'll always turn 90° Left or Right respectively
- whenever a person turn 180° , he/she will face the opposite dir. (Same for each dir.)
- clockwise \rightarrow R, Anticlockwise \rightarrow L
- while facing the opposite dir, the dir will be opposite based on that facing ex

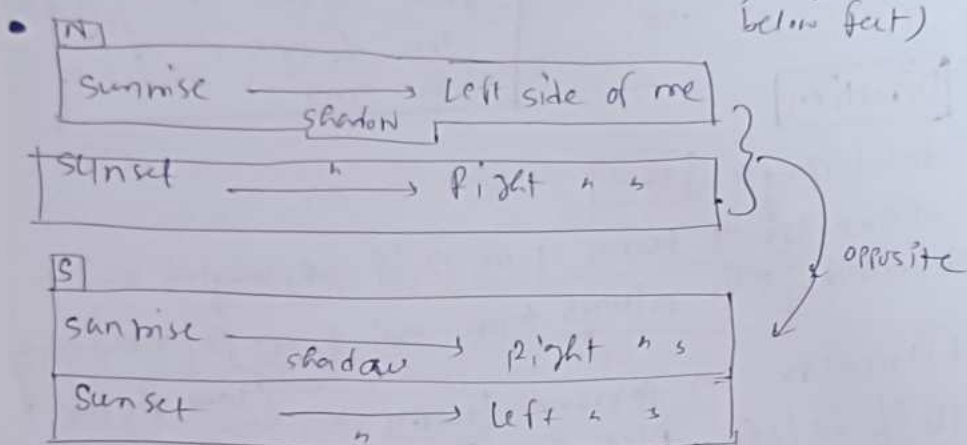


turn it 90° , you'll get this

(Same for E & W)

- $A^2 = B^2 + C^2$ (For right angle triangle)
 hypotenuse 2 sides that are perpendicular on e/o

- Sunrise in Morning → shadow → towards West
- Sun setting in the evening → " → East (opposite)
- 12 Pm → " → No shadow (Sun upon head, shadow will be below feet)



- Whenever the direction starts from diagonal (SE, SW, NE, NW) → after reaching the PR. Said in the In always draw a '+' sign.

- Whenever the distance b/w starting & ending point will be asked, there will be familiar geometrical figures $\square, \square, \triangle, \nabla, \triangle$ etc always.

⑤ Analogy / Pattern recognition

Steps

- 1) Find the elements those who are similar.
- 2) How to find pattern? → there are little little changes in diff. figs that changes will give me the pattern.

of Action

if not able

iii) Try to find group of elem & see how they change

if not able
iv) Take a single elem & see how the single elem changes.

if not able
v) they are the combinations of few types of analogy sums.

Types

- i) Rotation (move the fig / rotation of the fig)
- ii) Dislocation of fig (Dislocation of fig can give you a Pattern)
- iii) Interchange of figure (---)
- iv) movement & rearrangement (---)
- v) Addition & deletion
- vi) Identical figures (Often this follows the above steps to get the Pattern)

180° means opposite

Interchange of fig = Inside gone outside
outside gone inside

Data sufficiency

While reading S1 don't look at S2 & the vice versa

If S1 & S2 both aren't sufficient alone, then we need to merge two, then no mix.

Data sufficient means ans. can be 'yes' or 'no'.

By looking up 5/6 or more cases we'll not judge the ans, we need a concrete method to judge the ans.

Factors

12, 12 = {1, 2, 3, 4, 6, 12}

factors ↓

total 6 unique factors

how many factors will be there of 12

$$n = 12 = 2^2 \times 3^1$$

$$n = (2+1)(1+1) = 6 \quad (\text{prime nos})$$

$$N = a^p \times b^q \times c^r$$

total no of

a, b, c → prime nos

$$\text{factors}(n) = (p+1)(q+1)(r+1)$$

unique factors = a, b, c & a, b, c → prime

7 Data Interpretation

Patience & take time (1st rule)
read 'em carefully

Graph → value wise (Rupee, Dollar, Paise)
→ column wise (kg, grams, liters)

$$\% \text{ change} = \frac{\text{Final val.} - \text{Initial val.}}{\text{Initial val.}} \times 100$$

↓ → means decrease
↑ → increase

type of graphs/schemes
↓
table pie bar line

no exact calc. here,
do calc. by approx. an.

• Don't see the partitions of 2 graphs & tell ans, as the data of 2 graphs are not same so, it can happen $\rightarrow 20\% \rightarrow 9\%$.
 because diff. of data \rightarrow It's

Initial	months	Present
100	$\rightarrow 0\%$	$\rightarrow 100$ (no multiple)
100	$\rightarrow 50\%$	$\rightarrow 150$ (1.5 times)
100	$\rightarrow 100\%$	$\rightarrow 200$ (2 ")
100	$\rightarrow 150\%$	$\rightarrow 250$ (2.5 ")
...

• If a thing is increased by n times then it is increasing by $(n-1) \times 100\%$.

$$\therefore n \text{ times} = (n-1) \times 100\%$$

• If total GDP = x , then GDP by manufacturing

$$= \frac{\text{Obtain (or unit) total}}{\text{total (orig unit)}} \times \text{actual total (i.e. } x, \text{ i.e. in h/w how much you are obtaining)}$$

$$y\% \text{ of } x \propto k \text{ of } y\%$$

Same

⑧ Deductive Reasoning / Logical deduction

⑨ Statement & Conclusions

Action

- The common sense here, must need to be applied only on the given statement, don't apply common logics by your own.

(main tip)

conclusion, & inference same word

Rules

- 1) Don't assume (have the statement true always)

- 2) If in the C., 'Result' / 'Advice' is given, then always consider it as TRUE. (The C. must have to be related to S.)

- 3) Don't Pre-assume

- 4) Don't consider morality, ethics, sympathy, empathy etc like that (just focus on the given statement)

- 5) Probable / chance \rightarrow Filters or means

- 6) Ambiguous C. \rightarrow don't mark
Concrete C. \rightarrow choose / mark it

ii) Statement & Assumptions

\rightarrow Without any proof assume something

Kind of (assumption)

- Solve with common sense, general awareness & logic

- Implicit (Indirect) = True
Explicit (Direct) = False

(But stick to S)

- Every, each, none, all, only etc \Rightarrow Assumption Explicit \rightarrow false

Rules

- 1) Stick to the statement (the as.s. has to be relevant)

to the S)

② Assump.s that talk about fact or future are always explicit \Rightarrow false

③ Assu. going against the statement \Rightarrow Explicit \Rightarrow F

④ If the S. is generalized & the assumption is specific & vice versa (S. is specific & assu. is general) \Rightarrow Explicit \Rightarrow False

• Something isn't mentioned in S but in 'assump' it is mentioned, but with a 'may' i.e. with possibility, not confirmation & also that assump. is logical \Rightarrow then Implicit \Rightarrow T

• For any chances/possibilities (i.e. both steady hand & shaky hand)
Either 'I' or 'is' can be followed, \swarrow is may steady hand \searrow is may not steady hand

iii) Statement & Arguments both can't be followed at the same time

• Statement is \rightarrow need to determine which is strong & which is weak
always true, but we need to consider, h.k., (i.e. morals - ethics (opposite of s-c)

(to a certain extent)
• To have a strong arg, the arg must have to be PRACTICAL

- Adv Disadv

Both are strong individually

In ans, we'll always

tell either adv or dis adv is strong

- If $\begin{array}{c} \xrightarrow{s} \\ \xrightarrow{s} \end{array}$ } Then choose 'Both'

④ Statement & Course of Action