INEQUALITIES

Now let's starts the detail discussion of Inequalities and few important reasoning question answer.

- In reasoning chapter Inequalities is a very important topic. It's based on six different possibilities. Which are equal and not equal to and greater or less (<, >) then or greater then equal to (≥), less then equal to (≤). we can say that inequality means four possibility >, <, ≥, ≤.

- Before going to shortcut tricks we will learn first basic examples. This will help us for better understanding. Using shortcut you can solve problems very less time.

- There are two types of questions are given in exams. One is direct relation between two objects or elements and another coded form. In coded form relation would be given as symbolic form, you have to solve the problems with the help of those symbolic forms.

=	If A = B or B = A that mean A <=> B is same (we can ignore it at conclusion).
>	A > B = 3 > 2 (3 is bigger than 2).
<	A < B = 2 < 3 (2 is smaller than 3).
≥	**A≥B :** A is greater than B. Suppose, value of B is 6, than value of A should always greater like 7, 8, 9 onward or equal means 6. But not less than b value that is 6.
≤	**A≤B :** A is lesser than B. Suppose, value of A is 7, than value of B Should always greater 8, 9, 10 onward, or equal to 7. But not less than value of A.

Types of Inequalities:

1. Common sign

1. If only conclusion i is true.

2. If only conclusion ii is true.
3. If either conclusion i or ii is true
4. If neither conclusion i nor ii is true.
5. If both conclusion i and ii are true.

- **P ≥ D = M > T ≥ L = O**

- **i) P ≥ T**
- **ii) D ≥ L**

Explanation :
In conclusion
(i) From P to T present ≥, = and > sign , we can ignore = sign and between ≥ and > common sign is > but in conclusion given ≥ sign. So, its a False. In Conclusion
(ii) also same. So, its False.

2. Opposite sign

1. If only conclusion i is true.
2. If only conclusion ii is true.
3. If either conclusion i or ii is true
4. If neither conclusion i nor ii is true.
5. If both conclusion i and ii are true.

- **T > A < M = L**

- **i) T > M**
- **ii) T < M**

Explanation : In case of opposite sign we can't compare. So, conclusion is always wrong.

3. Coded form

- A ⨁ B means, A is not smaller than B.
- A $ B means, A is neither greater than nor smaller than B.
- A * B means, A is neither equal to nor smaller than B.
- A £ B means, A is neither greater than to nor equal than B.
- A @ B means, A is not greater than B.

- **S £ T, M ⊕T, Q $ N**

- **i) M $ Q** *(False) M = Q*
- **ii) S ⊕N** *(False) S ≥ N*
- **iii) Q * M** *(False) Q > M*

- **S < T, M ≥ T, Q = N**
- **M ≥ T > S, Q = N**

1. Only (i) is true.
2. Only (ii) is true.
3. Either (i) or (ii) is true.
4. Only (iii) is true.
5. **None of these. (Answer)**