

## Inequality

As mentioned above, Inequality refers to expressions that contain inequality signs such as  $<$ ,  $>$ ,  $=$ , etc. To understand the questions based on mathematical inequalities, candidates must know about various signs, which are used in such types of questions. The same is given below:

| Symbol     | Meaning                                 |
|------------|-----------------------------------------|
| $A > B$    | A is greater than B                     |
| $A < B$    | A is less than B                        |
| $A = B$    | A is equal to B                         |
| $A \geq B$ | A is either greater than or equal to B  |
| $A \leq B$ | A is either less than or equal to B     |
| $A \neq B$ | A is either greater than or less than B |

### Types of Inequality

As now we know what consists of the questions related to the Inequality section. Let us see the various types of questions that may come one by one from below:

#### 1. Basic Inequality

In these type of Inequality questions, expressions consisting of comparison between different elements will be given and a defined relation between any 2 elements will be asked.

#### 2. Either – or Case

In these type of Inequality questions, a definite relation between two elements cannot be determined. In this type of question there will be given 2 relations only from which either relation 1 or 2 can be true.

#### 3. Coded Inequality

In these type of Inequality questions, codes will be assigned to inequality symbols and the expression will be given using those codes. Candidates need to decode the symbols and find the relation between the elements.

### How to Solve Inequality Questions – Tips and Tricks

Candidates can find various tips and inequality tricks from below for solving the questions related to the Inequality section.

**Tip # 1:** Candidates can consider the symbols by trick to find the answers quickly such as  $>$  as Father,  $\geq$  as Mother,  $=$  as Servant, the priority for solving any questions will be given on the basis of seniority such as Father is senior than Mother and Mother is senior than Servant, and so on.

**Tip # 2:** Some of the rules for Basic Inequalities are as follows.

| Statement         | Conclusion                    |
|-------------------|-------------------------------|
| $P > Q > R$       | $P > R$                       |
| $P > Q \geq R$    |                               |
| $P \geq Q > R$    |                               |
| $P = Q > R$       |                               |
| $P > Q = R$       |                               |
| $P < Q < R$       | $P < R$                       |
| $P < Q \leq R$    |                               |
| $P \leq Q < R$    |                               |
| $P = Q < R$       |                               |
| $P < Q = R$       |                               |
| $P \geq Q \geq R$ | $P > R$ or $P = R$            |
| $P = Q \geq R$    |                               |
| $P \geq Q = R$    |                               |
| $P \leq Q \leq R$ | $P < R$ or $P = R$            |
| $P = Q \leq R$    |                               |
| $P \leq Q = R$    |                               |
| $P < Q > R$       | No conclusion can be inferred |
| $P \leq Q > R$    |                               |
| $P < Q \geq R$    |                               |
| $P > Q < R$       |                               |
| $P > Q \leq R$    |                               |
| $P \geq Q < R$    |                               |

**Tip # 3:** Candidates need to follow the below mentioned rules for solving the either or case inequalities reasoning section:

| Complementary Pair | Conditions                                                                                                                                                                                    |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $> + =$            | <ul style="list-style-type: none"> <li>Elements in both conclusions should be the same.</li> <li>Both are individually false.</li> <li>Combination of the relation should be true.</li> </ul> |
| $< + =$            |                                                                                                                                                                                               |
| $> + < + =$        |                                                                                                                                                                                               |
| $\leq + >$         | <ul style="list-style-type: none"> <li>Elements in all conclusions should be the same.</li> <li>The relation between the elements in all the cases should be "can't say"</li> </ul>           |
| $> + \leq$         |                                                                                                                                                                                               |

### Inequality Sample Questions

**Question 1:** In the question, assuming the given statements to be true, find which of the conclusions among given two conclusions is/are definitely true, and then give your answer according to it.

**Statement:**

$$H < A < T = G > U \geq V \geq B$$

**Conclusion:**

I.  $T > B$

II.  $G > H$

- (1) Only conclusion I follow
- (2) Either conclusion I or II follow
- (3) Only conclusion II follow
- (4) None Follows
- (5) Both conclusion I and II follow

**Solution:**

Given Statement:  $H < A < T = G > U \geq V \geq B$

I.  $T > B = \text{True (as } T = G > U \geq V \geq B)$

II.  $G > H = \text{True (as } H < A < T = G)$

If we analyse the given statements, then we get the answer both conclusion I and II follows.

**Question 2 :** In the question, assuming the given statements to be true, find which of the conclusions among given two conclusions is/are definitely true, and then give your answer according to it.

**Statement:**

$$F > Y \geq X < Z, C \leq X < W$$

**Conclusion:**

I.  $Z > C$

II.  $F > W$

- (1) Only conclusion I follow
- (2) Either conclusion I or II follow
- (3) Only conclusion II follow
- (4) None Follows

(5) Both conclusion I and II follow

**Solution:**

Given Statement:  $F > Y \geq X < Z, C \leq X < W$

On combining we will get  $F > Y \geq X \geq C$  and  $F > Y \geq X < W$

Conclusions:

I.  $Z > C = \text{True } (F > Y \geq X \geq C)$

II.  $F > W = \text{False } (F > Y \geq X < W, \text{ relationship between F and W cannot be determined.})$

Hence, the only conclusion I follow.

**Question 3 :** In the question, assuming the given statements to be true, find which of the conclusions among given two conclusions is/are definitely true, and then give your answer according to it.

**Statement:**

$B = K \geq H = T > U \leq I$

**Conclusion:**

I.  $H > I$

II.  $H \leq I$

(1) Only conclusion I follow

(2) Either conclusion I or II follow

(3) Only conclusion II follow

(4) None Follows

(5) Both conclusion I and II follow

**Solution:**

Given Statement:  $B = K \geq H = T > U \leq I$

I.  $H > I = \text{False (as } H = T > U \leq I)$

II.  $H \leq I = \text{False (as } H = T > U \leq I)$

Hence, Either conclusion I or II follows.

**EXERCISE**

**Directions (1-5):** Relationship between different elements is shown in the statements. They are followed by two conclusions. Find if the conclusions follow or not.

**1. Statements:**

$$F \geq V = T \geq G < L \leq D = S; E = Q < T \leq N; Q > P = W$$

**Conclusions:**

I.  $D > N$

II.  $F > W$

(A) Both I And II Follow

(B) Only I Follow

(C) Either I Or II Follows

(D) Only II Follows

(E) Neither I Nor II Follow

**2. Statements:**

$$H \geq O = U \geq B < L = P; D < N = B \geq S > K$$

**Conclusions:**

I.  $K < L$

II.  $H \geq K$

(A) Both I And II Follow

(B) Only II Follows

(C) Only I Follows

(D) Either I Or II Follows

(E) Neither I Nor II Follow

**3. Statements:**

$$H > L = G \geq S < L \leq W; S > W > P = R \leq V; P < X = O$$

**Conclusions:**

I.  $W > R$

II.  $O > R$

(A) Only II Follows

(B) Only I Follows

(C) Both I And II Follow

(D) Either I Or II Follows

(E) Neither I Nor II Follow

**4. Statements:**

$$B < N = T \geq G > H = F; G > L = D > V; L > W = A$$

**Conclusions:**

I.  $A < H$

II.  $V < B$

(A) Only II Follows

(B) Only I Follows

(C) Both I And II Follow

(D) Either I Or II Follows

(E) Neither I Nor II Follow

**5. Statements:**

$$V < E = D = W \geq L; F \geq S = D < K; L \geq R = H \geq B$$

**Conclusions:**

I.  $B < S$

II.  $B = S$

(A) Only II follows

(B) Only I follows

(C) Both I and II follow

(D) Either I or II follows

(E) Neither I nor II follow

### Answer Key

1. D

2. C

3. C

4. E

5. D

NOTOPEDIA

© 2025 Notopedia All rights reserved.



info@notopedia.com

(mailto:hello@notopedia.com) (mailto:info@notopedia.com)



Material Add Request



Submit Material

School

(<https://www.notopedia.com/school-board>)

Sarkari Jobs

(<https://www.notopedia.com/sarkari-jobs>)

Sarkari Exams

(<https://www.notopedia.com/sarkari-jobs-exam>)

College Exams

(<https://www.notopedia.com/college-entrance>)

College Search

(<https://www.notopedia.com/college-list>)

Exam Calendar

(<https://www.notopedia.com/exam-calender>)

News

(<https://www.notopedia.com/bulletin-board>)

About us

(<https://www.notopedia.com/about-us>)

Contact

(<https://www.notopedia.com/contact-us>)

Legals

(<https://www.notopedia.com/legals>)



Face  
(<https://www.facebook.com/Notopedia>) (http



Twitter  
(<https://twitter.com/notopedia>) (<https://twitter.com/notopedia>)



Ins  
(<https://www.instagram.com/notopedia/>) (ht



You  
(<https://www.youtube.com/@notopedia>) (htt