

## Questions on Inequality in Reasoning

Given below are a few questions on Inequality in reasoning to candidates to prepare themselves well.

**Directions (Q1 - Q5):** In the following questions, the symbols \$, @, %, & and # are used with the following meanings as illustrated below:

- 'A \$ B' means A is neither greater nor smaller than B
- 'A @ B' means A is neither greater than nor equal to B'
- 'A % B' means A is neither smaller than nor equal to B
- 'A& B' means A is not smaller than B
- 'A # B' means A is not greater than B

In each of the following questions, assuming the given statements to be true, find out which of the two conclusions I and II given below them is/are definitely true.

**Q 1.** X&J, J %F, F @ K, K # O

**Conclusion I:** O%X

**Conclusion II:** O # X

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 conclusions I and II are true

**Answer: (4) If neither conclusion I nor II is true;** There is no relation between X and O

Solution:

Symbol	\$	@	%	&	#
Sign	=	<	>	≥	≤

**Q 2.** Statements: A&B, B %C, D \$ C, D # E

**Conclusion I:** A% E

**Conclusion II:** A% D

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 conclusions I and II are true

**Answer: (1) If only conclusion I is true;** A is greater than C is only true

**Q 3.** Statements: X @ A, A \$ V, V % M, M & L

**Conclusions I: X @ M**

**Conclusion II: L % A**

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 conclusions I and II are true

**Answer: (4) If neither conclusion I nor II is true**

**Q 4.** Statements: A \$ Z, Z @ Y, Y & O, O # P

**Conclusion I: P % O**

**Conclusion II: A @ Y**

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 conclusions I and II are true

**Answer: (2) If only conclusion II is true;** P is either greater than or equal to O, and any doubtful conclusion is considered false

**Q 5.** Statements: A % B, B # C, C \$ D, D @ E

**Conclusion I: D \$ B**

**Conclusion II: D % B**

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 conclusions I and II are true

**Answer: (3) If either conclusion I or II is true;** D is either greater than or equal to B, which is why either of the two conclusions can be true

**Directions (Q6 - Q7):** Answer the following questions based on the statement given below:

**Statement:  $P < S < R < T > Q$**

**Q 6.** Which of the given conclusions is incorrect based on the given statement?

1.  $R < P$
2.  $S < T$
3. No relation between P & Q

4. No relation between P & T
5.  $P < T$

**Answer: (3) No relation between P & Q**

**Q 7.** Which sign should be filled in the blank for the conclusion given below?

**Conclusion: P \_\_\_ T**

1.  $>$
2.  $<$
3.  $=$
4.  $\leq$
5.  $\geq$

**Answer: (2)  $<$ ;  $P < T$**

**Directions (Q8-Q10):** Based on the statements, answer the following questions.

'P \* Z' means P is neither greater nor smaller than Z

'P # Z' means P is neither greater than nor equal to Z

'P & Z' means P is neither smaller than nor equal to Z

'P + Z' means P is not smaller than Z

'P % Z' means P is not greater than Z

**Q 8.** For the statement given below, which of the following options is correct?

Statement:  $A \# C * F \& R \% T$

1.  $A \& C$
2.  $F \# T$
3.  $C * R$
4.  $A \% T$
5.  $C \# F$

**Answer: (5)  $C \# F$**

**Solution:**

Symbol	*	#	&	+	%
Sign	=	<	>	$\geq$	$\leq$

Statement:  $A \# C * F \& R \% T$

Conclusion:  $A < C = F > R \leq T$

$A \& C \leftrightarrow A > C$

$F \# T \leftrightarrow F < T$

$C * R \leftrightarrow C = R$

$A \% T \leftrightarrow A \leq T$

$$C \# F \leftrightarrow C > R$$

And only  $C > R$  is correct based on the given equation

**Q 9.** To prove that  $A > B$  in the given statement, which code should be filled in the blank?

Statement:  $C \& B \text{ \_\_\_\_\_ } F * E \# A$

1. #
2. \*
3. &
4. +
5. %

**Answer: (5) %**

**Solution:**

Symbol	*	#	&	+	%
Sign	=	<	>	≥	≤

$C \& B \text{ \_\_\_\_\_ } F * E \# A$

When % is placed in the blank, the statement becomes,

$C \& B \% F * E \# A$

$\Rightarrow C > B \leq F = E < A$ , which proves that  $A > B$

**Q 10.** To prove that  $X > Y$ , which symbol should be filled in the blank given below?

Statement:  $P \% Y * C \text{ \_\_\_\_\_ } X \% Q$

1. \*
2. #
3. %
4. &
5. +

**Answer: (2) #**

**Solution:**

When # is placed in the blank, the statement becomes  $P \% Y * C \# X \% Q$

Which when decoded, it becomes

$P \leq Y = C < X \leq Q$ , which proves that  $X$  is greater than  $Y$

To prepare other important reasoning ability topics, refer to the below-mentioned links:

<a href="#">Blood Relations</a>	<a href="#">Reasoning Puzzles</a>	<a href="#">Seating Arrangement</a>
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<a href="#">Machine Input &amp; Output</a>	<a href="#">Coding-Decoding</a>	<a href="#">Alphanumeric Series</a>
<a href="#">Data Sufficiency</a>	<a href="#">Order and Ranking</a>	<a href="#">Syllogism</a>