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# Inequalities questions for IBPS SO Pre, IBPS Clerk, RRB Scale I Pre, SBI PO Pre and SBI Clerk 

## INEQUALITIES QUIZ 10

Directions: Study the following questions carefully and choose the right answer given beside.

Directions (Q.1-3): In this question, relationship between different elements is shown in the statements. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. The statement is followed by some conclusions. Study the conclusions based on the given statement and select the appropriate answer.
(1). Statements: $7>5>9=1<3,4 \leq 2=6<9<0$

## Conclusions: I. $5>2 \quad$ II. $4 \leq 1$

A. Neither C1 nor C2 follows
B. Only C1 follows
C. Both C1 and C2 follow
D. Only C2 follows
E. Either C1 or C2 follows
(2). Statements: $\mathrm{D}<\mathrm{H} \leq \mathrm{L}<\mathrm{J} \leq \mathrm{K}<\mathrm{A}, \mathrm{M}=\mathrm{F} \neq \mathrm{J}=\mathrm{G} \geq \mathrm{I}>\mathrm{Q}, \mathrm{U} \leq \mathrm{P}<$ $\mathrm{E}=\mathrm{C}=\mathrm{I}$
Conclusions: I. E < A II. D < P
A. Neither C1 nor C2 follows
B. Only C1 follows
C. Both C1 and C2 follow
D. Only C2 follows
E. Either C1 or C2 follows
(3). Statements: $\mathrm{C}<\mathrm{L} \leq \mathrm{M}=\mathrm{E} \leq \mathrm{X}<\mathrm{I}, \mathrm{J}=\mathrm{X}<\mathrm{H} \leq \mathrm{S} \leq \mathrm{V}>\mathrm{N}, \mathrm{A} \leq \mathrm{V}<$ T = Z = W > U
Conclusions: I.L<T II. S > M
A. Neither C1 nor C2 follows
B. Only C1 follows
C. Both C1 and C2 follow
D. Only C2 follows
E. Either C1 or C2 follows
(4). Which of the following symbols should replace the question mark in the given statement in order to make conclusion ' $\mathrm{W}=$ F ' as well as ' $\mathrm{P}>\mathrm{Y}$ ' definitely true?
$\mathbf{M}>\mathbf{W}=\mathbf{P} \boldsymbol{F} \geq \mathbf{T}>\mathbf{Y}$
A. >
B. $<$
C. $>$
D. $=$
E. None of these
(5). In which of the following expressions ' $L$ > $P$ ' as well as ' $J>P '$ hold definitely true?
A. $L>X>E=P<H \leq J$
B. $L \geq X=E>P \leq H<J$
C. $L=X>E \geq P<H<J$
D. All of the above
E. None of the above

Directions(Q.6-8): In these questions, relationship between different elements is shown in the statement. The statements are followed by two conclusions. Choose the correct answer on the basis of information given below.
(6). Statements: $P<Q<R<S \geq T, F=T \geq Z \geq H>U$

Conclusions: $\mathrm{S}>\mathrm{Z}, \quad \mathrm{P}<\mathrm{F}$
A. Both conclusions I and II follow
B. Either conclusion I or II follows
C. Only conclusion I follows
D. Only conclusion II follows
E. Neither conclusion I nor II follows
(7). Statements: $X=V \leq Y \geq Z<C, \quad X>P>R=D \geq F$

Conclusions: V > F, Y > R
A. Both conclusions I and II follow
B. Either conclusion I or II follows
C. Only conclusion I follows
D. Only conclusion II follows
E. Neither conclusion I nor II follows
(8). Statements: $A \geq B=D>X<H, F<C<A=E \leq G$

Conclusions: $G \geq D, \quad F<B$
A. Both conclusions I and II follow
B. Either conclusion I or II follows
C. Only conclusion I follows
D. Only conclusion II follows
E. Neither conclusion I nor II follows
(9). In which of the following expressions ' $W>Z^{\prime}$ ' as well as ' $Y>Z$ ' hold definitely true?
A. $W>X>U=Z<H \leq Y$
B. $W \geq X=U>Z \leq H<Y$
C. $W=X>U \geq Z<H<Y$
D. All of the above
E. None of the above
(10). Which of the following symbols should replace the question mark in the given statement in order to make conclusion ' $\mathrm{W}=$ O ' as well as ' $\mathrm{P}>\mathrm{K}$ ' definitely true?

$$
L>W=P ? O \geq T>K
$$

A. >
B. $<$
C. $\geq$
D. =
E. None of the above

## Correct answers:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B | B | C | D | D | E | A | C | D | D |

## Explanations:

1. 

Statements: $7>5>9=1<3,4 \leq 2=6<9<0$

Conclusions: I. $5>2 \quad$ II. $4 \leq 1$

Combining equations to find the relationship between 5 and 2 , we get
$7>5>9>6=2$

Clearly, the common sign of inequalities between 5 and 2 is of ' $>$ ' and the conclusion given is $5>2$. C1, hence, follows.

Similarly, for 4 and 1 we get,
$4 \leq 2=6<9=1$

Here, the common sign of inequalities between 4 and 1 is of ' $<$ ' whereas the conclusion given is $4 \leq 1$. C2, hence, doesn't follow.

Hence option B is the correct answer.

## 2.

Statements: $\mathrm{D}<\mathrm{H} \leq \mathrm{L}<\mathrm{J} \leq \mathrm{K}<\mathrm{A}, \mathrm{M}=\mathrm{F} \neq \mathrm{J}=\mathrm{G} \geq \mathrm{I}>\mathrm{Q}, \mathrm{U} \leq \mathrm{P}<\mathrm{E}=\mathrm{C}=\mathrm{I}$

Conclusions: I. E < A II. D < P

Combining the equations to find the relationship between E and A , we get
$\mathrm{E}=\mathrm{C}=\mathrm{I} \leq \mathrm{G}=\mathrm{J} \leq \mathrm{K}<\mathrm{A}$

Clearly, the common sign of inequalities between E and A is of '<'. Conclusion $E<$ $A$ is hence stays true. C1, hence, follows.

Similarly, combining equations to find the relationship between $D$ and $P$, we get
$\mathrm{D}<\mathrm{H} \leq \mathrm{L}<\mathrm{J}=\mathrm{G} \geq \mathrm{I}=\mathrm{C}=\mathrm{E}>\mathrm{P}$

Clearly, the signs are getting reversed and hence we can't define a relationship between D and P. C2, hence, doesn't follow.

Option B is hence the correct answer.

## 3.

Statements: $\mathrm{T}<\mathrm{L} \leq \mathrm{M}=\mathrm{E} \leq \mathrm{X}<\mathrm{I}, \mathrm{J}=\mathrm{X}<\mathrm{H} \leq \mathrm{S} \leq \mathrm{V}>\mathrm{N}, \mathrm{A} \leq \mathrm{V}<\mathrm{B}=\mathrm{Z}=\mathrm{W}>\mathrm{U}$

Conclusions: I. L < B II. S > M

Combining both the equations to find the relationship between $L$ and $B$, we get
$\mathrm{L} \leq \mathrm{M}=\mathrm{E} \leq \mathrm{X}<\mathrm{H} \leq \mathrm{S} \leq \mathrm{V}<\mathrm{B}$

Clearly, the common sign of inequalities between $L$ and $B$ is of ' $<$ ' and the given conclusion is $L<B$. C1, hence, follows.

Similarly, for $S$ and $M$, we get
$S \geq H>X \geq E=M$

Clearly, the common sign between S and M is of '>' and the given conclusion is S > M. C2, hence, follows as well.

Option C is hence the correct answer.

## 4.

In order to make the given conclusions ' $W=F$ ' and ' $P>Y^{\prime}$ ' definitely true, we have to apply all the given symbols in the options one by one.

For option A: >
$\mathrm{M}>\mathrm{W}=\mathrm{P}>\mathrm{F} \geq \mathrm{T}>\mathrm{Y}$

Here, the common sign between W and F is ' $>$ ', thus it does not follow $\mathrm{W}=\mathrm{F}$.
The common sign between $P$ and $Y$ is also ' $>$ ' , thus it follows $P>Y$.

Since, we need a symbol which will follow both the conclusions simultaneously, option A gets eliminated.

For option B: <
$\mathrm{M}>\mathrm{W}=\mathrm{P}<\mathrm{F} \geq \mathrm{T}>\mathrm{Y}$

Here, the common sign between $W$ and $F$ is ' $<$ ', thus it does not follow $W=F$.

Here, there are opposite signs between $P$ and $Y$. Thus, no relationship can be established between them.

Hence, it does not follow both the conclusions.

For option $\mathrm{C}: \geq$
$\mathrm{M}>\mathrm{W}=\mathrm{P} \geq \mathrm{F} \geq \mathrm{T}>\mathrm{Y}$

Here, the common sign between $W$ and $F$ is ' $\geq$ ', thus it does not follow $W=F$ solely.

Here, the common sign between P and Y is ' $>$ ', thus it follows $\mathrm{P}>\mathrm{Y}$.

Since, we need a symbol which will follow both the conclusions simultaneously, option C gets eliminated.

For option D: =
$\mathrm{M}>\mathrm{W}=\mathrm{P}=\mathrm{F} \geq \mathrm{T}>\mathrm{Y}$

Here, the common sign between $W$ and $F$ is ' $=$ ', thus it follows $W=F$.

Here, the common sign between P and Y is ' $>$ ', thus it follows $\mathrm{P}>\mathrm{Y}$.

Since both the conclusions follow simultaneously by using '=' symbol.

Hence option D is correct.

## 5.

In order to ensure the statement that holds ' L > P' and ' J > P' definitely true, we have to check all the options one by one.

## For option A:

$L>X>E=P<H \leq J$

Here, the common sign between $L$ and $P$ is ' $>$ ', thus it follows $L>P$.

The common sign between $P$ and $J$ is also ' $<$ ' , thus it follows $P<J$ or $J>P$.

For option B:
$L \geq X=E>P \leq H<J$
Here also, the common sign between $L$ and $P$ is ' $>$ ', thus it follows $L>P$.
The common sign between P and J is also ' $<$ ' , thus it follows $\mathrm{P}<\mathrm{J}$ or $\mathrm{J}>\mathrm{P}$.

For option C:
$L=X>E \geq P<H<J$

Here again, the common sign between $L$ and $P$ is ' $>$ ', thus it follows $L>P$.

The common sign between P and J is also ' $<$ ' , thus it follows $\mathrm{P}<\mathrm{J}$ or $\mathrm{J}>\mathrm{P}$.

Since all the three expressions hold the given conclusions true, option D "all of the above" is correct.

Hence option D is correct.
6.

Statements: $\mathrm{P}<\mathrm{Q}<\mathrm{R}<\mathrm{S} \geq \mathrm{T}, \mathrm{F}=\mathrm{T} \geq \mathrm{Z} \geq \mathrm{H}>\mathrm{U}$

Conclusions: $\mathrm{S}>\mathrm{Z}, \quad \mathrm{P}<\mathrm{F}$
For conclusion $\mathrm{I}: \mathrm{S}>\mathrm{Z}$

From statements I and II, we get:
$S \geq T \geq Z$

Here, the common sign between $S$ and $Z$ is ' $\geq$ '. Hence $S \geq Z$. Thus conclusion I does not follow.

For conclusion II: $\mathrm{P}<\mathrm{F}$

From statements I and II, we get:
$\mathrm{P}<\mathrm{Q}<\mathrm{R}<\mathrm{S} \geq \mathrm{T}=\mathrm{F}$

Here, we get opposite signs between P and F . Thus no relationship can be established between them.

Hence conclusion II does not follow.

Since neither conclusion I nor II follows.

Hence option E is correct.

## 7.

Statements: $X=V \leq Y \geq Z<C, \quad X>P>R=D \geq F$

Conclusions: V > F, $\mathrm{Y}>\mathrm{R}$

For Conclusion I: V > F

From statements I and II, we get:
$V=X>P>R=D \geq F$

Here, we get the common sign between $V$ and $F$ is ' $>$ ' . Thus $V>$ F. Hence conclusion I follows.

For Conclusion II: $Y>R$

From statements I and II, we get:
$\mathrm{Y} \geq \mathrm{V}=\mathrm{X}>\mathrm{P}>\mathrm{R}$

Here, we get the common sign between $Y$ and $R$ is ' $>$ '. Thus $Y>R$. Hence conclusion II follows.

Hence option A is correct.
8.

Statements: $A \geq B=D>X<H, \quad F<C<A=E \leq G$

Conclusions: $G \geq D, \quad F<B$

For Conclusion I: G $\geq$ D

From statements I and II, we get:
$G \geq E=A \geq B=D$

Here, the common sign between $G$ and Dis ' $\geq$ '. Hence $G \geq D$ is true. Thus conclusion I follows.

For Conclusion II: F < B

From statements I and II, we get:
$\mathrm{F}<\mathrm{C}<\mathrm{A} \geq \mathrm{B}$

Here, the opposite sign between F and B denotes that no relation can be established between them. Hence conclusion II does not follow.

Therefore only conclusion I follows.

Hence option C is correct.
9.

In order to ensure the statement that holds ' $\mathrm{W}>\mathrm{Z}$ ' and ' $\mathrm{Y}>\mathrm{Z}$ ' definitely true, we have to check all the options one by one.

For option A:
$W>X>U=Z<H \leq Y$

Here, the common sign between W and Z is ' $>$ ', thus it follows $\mathrm{W}>\mathrm{Z}$.

The common sign between $Z$ and $Y$ is also ' $<$ ' , thus it follows $Z<Y$ or $Y>Z$.

For option B:
$W \geq X=U>Z \leq H<Y$

Here also, the common sign between $W$ and $Z$ is ' $>$ ', thus it follows $W>Z$.

The common sign between $Z$ and $Y$ is also ' $<$ ' , thus it follows $Z<Y$ or $Y>Z$.

For option C:
$W=X>U \geq Z<H<Y$

Here again, the common sign between $W$ and $Z$ is ' $>$ ', thus it follows $W>Z$.

The common sign between $Z$ and $Y$ is also ' $<$ ' , thus it follows $Z<Y$ or $Y>Z$.

Since all the three expressions hold the given conclusions true, option D "all of the above" is correct.

Hence option D is correct.
10.

In order to make the given conclusions ' $\mathrm{W}=\mathrm{O}$ ' and ' $\mathrm{P}>\mathrm{K}$ ' definitely true, we have to apply all the given symbols in the options one by one.

For option A: >
$\mathrm{L}>\mathrm{W}=\mathrm{P}>\mathrm{O} \geq \mathrm{T}>\mathrm{K}$

Here, the common sign between W and O is '>', thus it does not follow $\mathrm{W}=\mathrm{O}$.

The common sign between $P$ and $K$ is also ' $>$ ' , thus it follows $P>K$.

Since, we need a symbol which will follow both the conclusions simultaneously, option A gets eliminated.

For option B: <
$\mathrm{L}>\mathrm{W}=\mathrm{P}<\mathrm{O} \geq \mathrm{T}>\mathrm{K}$

Here, the common sign between W and O is ' $<$ ', thus it does not follow $\mathrm{W}=0$.

Here, there are opposite signs between P and K . Thus, no relationship can be established between them.

Hence, it does not follow both the conclusions.

For option C: $\geq$
$\mathrm{L}>\mathrm{W}=\mathrm{P} \geq \mathrm{O} \geq \mathrm{T}>\mathrm{K}$

Here, the common sign between $W$ and $O$ is ' $\geq$ ', thus it does not follow $W=0$ solely.

Here, the common sign between $P$ and $K$ is ' $>$ ', thus it follows $P>K$.
Since, we need a symbol which will follow both the conclusions simultaneously, option C gets eliminated.

For option D: =
$\mathrm{L}>\mathrm{W}=\mathrm{P}=\mathrm{O} \geq \mathrm{T}>\mathrm{K}$

Here, the common sign between W and O is ' $=$ ', thus it follows $\mathrm{W}=\mathrm{O}$.
Here, the common sign between $P$ and $K$ is ' $>$ ', thus it follows $P>K$.
Since both the conclusions follow simultaneously by using '=' symbol.

Hence option D is correct.

## - '- Smarkeeda <br> The Question Bank

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