



BANK- PO/CLERK

**IBPS, SBI, RBI, IBPS-RRB, LIC, NABARD &
ALL OTHER BANKING & INSURANCE EXAMS**

Reasoning

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INEQUALITIES

Fundamental Sign

$>$ greater than
 $<$ less than
 $=$ equal

Derived Sign

\geq greater than or equal
 \leq less than or equal
 \neq Not equal

$$A \neq B \begin{cases} \rightarrow A > B \\ \rightarrow A < B \end{cases}$$

I Normal Inequality

Statement: $A > B, D \leq C, B \geq C$

Conclusion: I. $D < A$

II. $B > D$

\rightarrow I true, II false

II. Coded Inequality

$A \% B \rightarrow A$ is greater than B

$A \$ B \rightarrow A$ is not greater than B .

$A \% B \Rightarrow A > B, A \$ B \Rightarrow A \leq B$

Statement: $P \% Q, Q \$ R, R \$ S$

Conclusion: I. $P \% S$ II. $S \$ R$

Sol. $\Rightarrow P > Q, Q \leq R, R \leq S$

I. $P > Q, Q \$ R, R \$ S$

II. $S \leq R$

I True, II false

III Filler Based Inequality

• Half fillers

• Full fillers

2. If $A > C, E \geq C$ are true, then, $A ? B ? C ? D ? E$.

Positive Coding Language

* Forward Coded

- $A \% B \rightarrow A$ is greater than B .
- $A \Delta B \rightarrow A$ is smaller than B
- $A \$ B \rightarrow A$ is greater than or equal to B .
- $A \odot B \rightarrow A$ is smaller than or equal to B .
- $A @ B \rightarrow A$ is equal to B .

- $A \% B \rightarrow A > B \rightarrow \%, >$
- $A \Delta B \rightarrow A < B \rightarrow \Delta, <$
- $A \$ B \rightarrow A \geq B \rightarrow \$, \geq$
- $A \odot B \rightarrow A \leq B \rightarrow \odot, \leq$
- $A @ B \rightarrow A = B \rightarrow @, =$

* Backward Coded

- $A \% B \rightarrow B$ is greater than A
- $A * B \rightarrow B$ is greater than or equal to A
- $A \in B \rightarrow B$ is smaller than A
- $A \neq B \rightarrow B$ is smaller than or equal to A
- $A @ B \rightarrow B$ is equal to A .

- $A \% B \rightarrow B > A \rightarrow \%, <$
- $A * B \rightarrow B \geq A \rightarrow *, \leq$
- $A \in B \rightarrow B < A \rightarrow \in, >$
- $A \neq B \rightarrow B \leq A \rightarrow \neq, \geq$
- $A @ B \rightarrow B = A \rightarrow @, =$

Negative Coding Language

- * $A \# B \rightarrow A$ is not greater than B
- $A \% B \rightarrow A$ is not smaller than B .
- $A * B \rightarrow A$ is neither greater nor equal to B .
- $A \Delta B \rightarrow A$ is neither smaller nor equal to B .
- $A \in B \rightarrow A$ is neither greater nor smaller than B .
- $A @ B \rightarrow A$ is not equal to B

- $A \nabla B \rightarrow A \leq B \rightarrow \#, \leq$
- $A \nabla B \rightarrow A \geq B \rightarrow \%, \geq$
- $A * B \rightarrow A \neq B \rightarrow A < B \rightarrow *, <$
- $A \Delta B \rightarrow A \neq B \rightarrow A > B \rightarrow \Delta, >$
- $A \in B \rightarrow A \nabla \neq B \rightarrow A = B \rightarrow \in, =$
- $A @ B \rightarrow A \neq B \rightarrow$

Backward Coded

- $A \# B \rightarrow B$ is not greater than A
- $A \% B \rightarrow B$ is not smaller than A .
- $A * B \rightarrow B$ is neither greater than nor equal to A .
- $A \Delta B \rightarrow B$ is neither smaller than nor equal to A .
- $A \in B \rightarrow B$ is neither greater nor smaller than A .
- $A @ B \rightarrow B$ is not equal to A .

- $A \# B \rightarrow B \nabla A \rightarrow B \leq A \rightarrow \#, \geq$
- $A \% B \rightarrow B \nabla A \rightarrow B \geq A \rightarrow \%, \leq$
- $A * B \rightarrow B \neq A \rightarrow B > A \rightarrow *, >$
- $A \Delta B \rightarrow B \neq A \rightarrow B > A \rightarrow \Delta, <$
- $A \in B \rightarrow B \nabla \neq A \rightarrow B = A \nabla, =$
- $A @ B \rightarrow A \neq B$

- Single Sign $\rightarrow, <$
- Double Sign \geq, \leq
- Equal Sign $=$

• $A > B$ Open
Close

• $A < B$ Close
Open

• $A \geq B$ Open
Close

• $A \leq B$ Open
Close

• $A = B$ Open
Open

I. Normal Inequality

* Statement: $A > B, D \leq C, B \geq C, D < E$

Conclusion:

- I. $D < A$ ✓
 - II. $B > D$ ✗
- I true, II false
- I. $A \geq D$ ✗
 - II. $D \leq B$ ✓
- I false, II true
- I. $A > A > E$ ✗
 - II. $B \geq E$ ✗
- Both I & II are false

* Statement: $P \geq Q \geq R < S, T < R \geq M$

Conclusion: I. $T < P$ ✓

All I, II, III are true

II. $M \leq Q$ ✓

III. $S > M$ ✓

* Statement: $J < K = T, A \geq B \geq C$

Conclusion: I. $M \geq J$ ✗

All I, II & III are True

II. $C \geq A$ ✗

III. $A \geq T$ ✗

* Statement: $A \geq Q \geq T, M < T, A = P, M > N \geq Z$

Conclusion: I. $P > Z$ ✓

Both I & II are false.

II. $N < H$ ✓

* Statement: $R > S < Q, Q = T, Z < T, Q \geq M$

Conclusion: I. $S < T$ ✓

I, III are true

II. $R > M$ ✗

II is Wrong

III. $T = Q$ ✓

Fill in the blanks.

- $A > B > C, A ? C$ $A > C$
- $P \leq Q < R, R ? P$ $R > P$
- $M \geq N \geq O, M ? O$ $M \geq O$
- $X \leq Y = Z, X ? Z$ $X \leq Z$
- $A > B \geq C = D = E, A ? D, B = ? E, C ? E, A > D, B \geq E, C = E$

- $A > B < C$ $A ? C$ Not Defined
- $J \leq I > K$ $J ? K$ Not Defined
- $W \geq X > Y, Z > A$ $W ? A$ Not Defined
- $P \geq Q > R, R > S$ $P ? T$ Not Defined
- $S > T \geq U < V \geq W > Z$ $S ? Z$ Not Defined

Condition of "either - or"

I. (a) Same of Two Conclusion have

(a) Same Elements.

(b) Contain all these Signs ($>, <, =$)

(c) Condition of not Defined

* Statement : $A = B \geq C, C \geq D, > E < F$

Conclusion :

• I. $A \geq F$ Same Element ✓ not Defined

• II. $A < F$ All Sign ✓

Either I or II follow

• I. $A \geq F$

• II. $F > A$

Either I or II follows.

• I. $A = F$

• II. $A \neq F$

Either I or II follows.

• I. $A \geq E \times$

• II. $A < E \times$

Both I & II are Wrong

• I. $A > E \checkmark$

• II. $A \leq E \times$

I is true, II is false

• I. $A \geq F \times$

• II. $A < E \times$

($E \neq F$)

Both I & II are Wrong

• I. $A > F$

• II. $B \leq F$

($A = B$)

Either I or II follows

• I. $A > T$

• II. $A \leq T$

Either I or II follows

* Statement : $I > A \geq S < M, S > G < T$

Conclusion : I. $I > T$
 II. $I \leq T$

→ Either I or II follows.

* Statement : $J \geq K < M, K \geq N < G$

Conclusion : I. $M \geq G$
 II. $N \leq J$ x
 III. $M < G$

→ II is true & Either I or II follow

* Statement : $x < G > y, y \geq M < T$

Conclusion : I. $x \geq M$ x
 II. $x \leq M$ x

(ऐसे Case में कभी भी Either or की Condition नहीं बनेगी)

→ Both I & II are Wrong

→ Neither I nor II follows.

* Statement : $M < N < T, T > K, P > G$

Conclusion : I. $N \geq G$
 II. $N < G$

→ Either I or II follows.

* Statement : $S \geq G > U < M, U \geq T$

Conclusion : I. $S \geq T$ x
 II. $T < S$ ✓

→ I is Wrong, II is true

* Statement : $P \geq Q \geq R < S, T < R < M$

Conclusion : I. $P \geq T$ x
 II. $P < T$ x

→ Both I & II are Wrong

* Statement : $P \geq Q \geq R < S, T > R < M$

Conclusion : I. $P > T$
 II. $P < T$
 III. $P = T$

→ Either I or II or III is true

II . (a) Element must be Same

(b) One Conclusion Contain Single Sign ($>$, $<$) and other Contain ($=$) Sign.

(c) Double Sign relation is Satisfied

* Statement : $A \geq B$ I. $A = B$
 Conclusion : I. $A > B$ or II. $A < B$
II. $A = B$

* Statement : $A = B \geq C, C \geq D > E < F$
 Conclusion : I. $A > D$
II. $A = D$

→ Either I or II follows,

I. $A = D$

II. $D < A$

→ Either I or II follows

I. $A \geq D$ ✓

II. $A = D$ ✗

→ I is true, II is false

I. $A = D$ ✗

II. $D > A$ ✗

→ Both I & II are wrong

I. $A = E$ ✗

II. $E < A$ ✓

→ I is false, II is true

I. $A > F$ ✗

II. $A = F$ ✗

→ Both I & II are wrong

→ Neither I nor II follows.

I. $A = D$

II. $B > D$

→ Either I or II follows.

* Statement : $P > T \geq T, M \leq L > N$

Conclusion : I. $T = M$
 II. $T > M$
 III. $N < P$ ✓

→ Either I or II follows & III is true

* Statement : $S = G \leq M < N, T \geq M \leq P$

Conclusion : I. $N > P$ x
 II. $S = T$
 III. $T > S$

→ I is false and either II or III follows.

* Statement : $A < B \geq G, G \geq L = M, P \leq M$

Conclusion : I. $B = M$
 II. $G > P$ x
 III. $B > M$

→ II is wrong, Either I or III follows

* Statement : $W \geq X, X < Y, Z \geq Y$

Conclusion : I. $W = Z$ x x
 II. $W > Z$ x x

→ Both I & II are wrong

* Statement : $E > F = G, G \geq H \geq Q$

Conclusion : I. $E = Q$ x
 II. $Q \leq G$ ✓
 III. $E > Q$ ✓

→ II is wrong, II & III both are true.

III (a) Element must be same

(b) Both Sign are present (Open & Close)

(c) Relation is not equal

* Statement : $A > B \leq C = D \neq E < G$

Conclusion : I. $C > E$
 II. $C < E$

→ Either I or II follows

I. $C > E$

II. $D < E$

→ Either I or II follows

* Statement : $A \geq B \geq C = D < E = F \neq G$

Conclusion I. $A \geq E$

II. $A < E$

→ Either I or II follows

I. $B > D$

II. $B = D$

→ Either I or II follows

I. $E > G$

II. $E < G$

→ Either I or II follows.

Coded Inequality

Direction:

(i) - $P * Q = P$ is not greater than Q

(ii) - $P + Q = P$ is not smaller than Q

(iii) - $P \# Q = P$ is neither greater nor equal to Q

(iv) - $P \times Q = P$ is neither smaller nor equal to Q

(v) - $P \$ Q = P$ is neither greater nor smaller than Q .

* Statement : $A * B, B \# C, C \$ D$

Conclusion ; I. $A \# D$

II. $A * D$

* Statement : $P * Q, R + Q, S \$ R$

Conclusion ; I. $P \$ S$

II. $P \# S$

Filler based Inequality:

Q. Which of two following Conclusion is definitely false?

Statement : $A \geq B \geq C, C \geq D > E$

Conclusion : I. $A > D$
 II. $B < D$

$$A \geq D \begin{cases} \rightarrow A > D \\ \rightarrow A = D \end{cases} \quad \Bigg| \quad B \geq D \begin{cases} \rightarrow B > D \\ \rightarrow B = D \end{cases}$$

⇒ Only II is definitely Wrong.

* ऐसे questions में पहले relation बनाना है, फिर options में Conclusion check करना है।

* Relation definitely Wrong

$A > B$	$A < B$	$A \geq B$	$A \leq B$	$A = B$	$A \neq B$	Not Defined blur $A \in B$
(i) $A < B$	$A > B$	$A < B$	$A > B$	$A > B$	$A = B$	
(ii) $A = B$	$A = B$			$A < B$		
(iii) $A \leq B$	$A \geq B$			$A \neq B$		

(A) Half fillers

* Expression $A > C, E \geq C$ are true, then

$$A \geq B ? C = D ? E$$

$$\rightarrow A \geq B > C = D \leq E$$

* Expression $A \geq C, E \geq C$ are true, then

$$A \geq B ? C = D ? E$$

$$(A) =, < \quad (B) \geq, \leq \quad (C) >, \leq$$

$$(D) =, > \quad (E) \geq, \leq$$

Sol $A \geq B (\geq, =) C = D \leq E$

* If $B \leq E$ & $A \geq C$, then $A \geq B - C = D - E$

$$\rightarrow A \geq B (= \geq) C = D \leq E$$

Statement : $A \geq B \geq C, C \geq D > E$

Conclusion : I. $A > D$
 II. $B < D$

$$A \geq D \begin{cases} \rightarrow A > D \\ \rightarrow A = D \end{cases} \quad \Bigg| \quad B \geq D \begin{cases} \rightarrow B > D \\ \rightarrow B = D \end{cases}$$

⇒ Only II is definitely Wrong.

* ऐसे questions में पहले relation बनाना है, फिर options में Conclusion check करना है।

* Relation definitely Wrong

$A > B$	$A < B$	$A \geq B$	$A \leq B$	$A = B$	$A \neq B$	Not Defined blw $A \in B$
(i) $A < B$	$A > B$	$A < B$	$A > B$	$A > B$	$A = B$	
(ii) $A = B$	$A = B$			$A < B$		
(iii) $A \leq B$	$A \geq B$			$A \neq B$		

(A) Half fillers

* Expression $A > C, E \geq C$ are true, then

$$A \geq B ? C = D ? E$$

$$\rightarrow A \geq B > C = D \leq E$$

* Expression $A \geq C, E \geq C$ are true, then

$$A \geq B ? C = D ? E$$

$$(A) =, < \quad (B) \geq, \leq \quad (C) >, \leq$$

$$(D) =, > \quad (E) \geq, \leq$$

Sol $A \geq B (\geq, =) C = D \leq E$

* IF $B \leq E$ & $A \geq C$, then $A \geq B - C = D - E$

$$\rightarrow A \geq B (\geq) C = D \leq E$$

Practice Questions

Directions (1-5): In these questions, relationship between different elements is shown in the statements. The statements are followed by conclusions study the conclusions based on the given statements and select the appropriate answer:

- (A) Both conclusion I and II are true
- (B) Either conclusion I or II is true
- (C) Only conclusion I is true
- (D) Neither conclusion I nor II is true
- (E) Only conclusion II is true

Q.1 statements: $Z = A \geq C < M, R > Z$

conclusions: I. $R > C$ II. $A < M$

sol: (A)

Q.2 statements: $N > A \geq C, P = N, P \leq L$

conclusions: I. $N > C$ II. $L > A$

sol: (E)

Q.3 statements: $S \leq K < M > W \geq Z$

conclusions: I. $W < K$ II. $Z = S$

sol: (D)

Q.4 statements: $S \leq L < R, S \geq N, P = N$

conclusions: I. $R \leq S$ II. $R < N$

sol: (A)

Q.5 statements: $L > M \geq P \leq S, Q < P, M < K$

conclusions: I. $K = L$ II. $M \geq Q$

sol: (D)

Directions (6-10): In these questions, a relation, relationships, between different elements is shown in the statements. These statements are followed by two conclusions.

- (A) Only conclusion I follows.
- (B) Only conclusion II follows.
- (C) Either conclusion I or II follows.
- (D) Neither conclusion I nor II follows.
- (E) Both conclusion I and II follows.

Q. 6 statements: $W \geq D < M < P < A = F$

conclusions: I. $F > D$ II. $P < W$

sol: (A)

Q. 7 statements: $N > D \geq F > J; E < L \leq G < S < P < F; G > U$

conclusions: I. $W < J$ II. $J \leq W$

sol: (C)

Q. 8 statements: $V < E = D = W \geq L; F \geq S = D < K; L \geq R = H \geq B$

conclusions: I. $B < S$ II. $B = S$

sol: (C)

Q. 9 statements: $A \geq B; C = D, E > F, F \geq D, B > C$

conclusions: I. $D > F$ II. $C \geq F$

sol: (D)

Q. 10 statements: $P < Q > S \geq R; S > U \leq T < M; M < B = P \geq D$

conclusions: I. $U > R$ II. $T < P$

sol: (B)

Directions (11-15): In the following questions, the symbols %, @, #, \$ and * are used with the following meaning as illustrated below:

'P # Q' means 'P is neither smaller than nor equal to Q.'

'P * Q' means 'P is neither greater than nor equal to Q.'

'P \$ Q' means 'P is not greater than Q.'

'P % Q' means 'P is not smaller than Q.'

'P @ Q' means 'P is neither smaller than nor greater than Q.'

In each of the following questions, mark answer. According to above symbols and their meaning.

Q. 11 Which of the following does not make $A \# C$ and $D \$ F$ definitely not true?

- (A) $A \% B \# C @ D \$ E \$ F$ (B) $A \# B @ C \$ D \# E @ F$
 (C) $A \% B \# C @ D \$ E * F$ (D) $A \% B \# C \# D @ E \$ F$
 (E) None of these

Sol: (C)

Q. 12 Which of the following makes $C \$ E$ or $B \% E$ definitely true?

- (A) $A * B \$ C @ D \% E \# F$ (B) $A \# B * C \$ D @ E \# F$
 (C) $A \# B \# C \% D \% E * F$ (D) $A @ B \% C @ D * E * F$
 (E) None of these

Sol: (B)

Q. 13 Which of the following makes $A * C$ and $E \# B$ definitely true?

- (A) $A * B \$ C @ D \% E \# F$ (B) $A * D \$ B * C @ E \# F$
 (C) $A * B \# C \% D * E \$ F$ (D) $A @ B * D @ C \% E @ F$
 (E) None of these

Sol: (B)

Q. 14 What will come in place of blank in following below such that $B * E$ and $F \# B$ are definitely true?

$$A @ B \$ C _ D @ E * F \$ G$$

- (A) @ (B) * (C) #
 (D) \$ (E) None of these

Sol: (B)

Q. 15 Which of the following makes $F \# D \$ B$ definitely true?

- (A) $A @ B \$ C * D \# E * F$ (B) $A * B @ C \% D \# E * F$
 (C) $A \% B * C \$ D @ E * F$ (D) $A \# B \% C @ D * E * F$
 (E) None of these

Sol: (D)

Directions (16-20): In the following questions, the symbols $+$, \times , $=$, \div and $-$ are used with the following meaning.

1. $P + Q$ means P is greater than Q .
2. $P \times Q$ means P is greater than or equal to Q .
3. $P = Q$ means P is equal to Q .
4. $P \div Q$ means P is smaller than Q .
5. $P - Q$ means P is either smaller than or equal to Q .

Now in each of the following questions assuming the given statements to be true, find which of the two conclusions.

I and II given below them is/ are true, find which give answer.

- (A) If only conclusion I is true.
- (B) If only conclusion II is true.
- (C) If either I or II is true.
- (D) If neither I nor II is true.
- (E) If both I and II are true.

Q. 16 statements: $U + V, W - Y, Y + U$
 conclusion: I. $W + U$ II. $W \div V$

sol: (D)

Q. 17 statements: $B \div A, D \times E, E + A$
 conclusion: I. $D + A$ II. $B \div E$

sol: (E)

Q. 18 statements: $S \times Q, R + T, R - S$
 conclusion: I. $S + T$ II. $Q = T$

sol: (A)

Q. 19 statements: $M \div N, P \times Q, P + N$
 conclusion: I. $N + Q$ II. $N - Q$

sol: (C)

Q. 20 statements: $G - H, K \times L, L - G$
 conclusion: I. $G \div K$ II. $L - H$

sol: (B)

Q. 21 what is in the place of question mark (?) in the given expression does the expression. $K < H$ and $V > K$ is definitely true?

$$V = O \geq L ? K; O \leq H$$

- (A) $>$ (B) $=$ (C) $< \text{ or } \leq$
 (D) \geq (E) None of these

Sol: (A)

Q. 22 which of the following order of letters in the blanks makes the expression $D > E$ is definitely true?

$$_ < _ \leq _ = _ > _$$

- (A) B, C, D, E, A
 (B) A, B, C, E, D
 (C) D, B, A, C, E
 (D) E, C, A, B, D
 (E) C, A, D, B, E

Sol: (E)

Q. 23 which of the following expressions will be true if the expression? ' $Z < Y \geq W = V$ ' is definitely true?

- (A) $V > Y$ (B) $Z < W$ (C) $V \geq Z$
 (D) $W \leq Z$ (D) None of true

Sol: (E)

Directions (24-28): In the following questions, the symbol @, ©, \$, % and * are uses with the following meaning as illustrated below.

'P © Q' means 'P is not smaller than Q'

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

'P * Q' means 'P is neither smaller than nor equal to Q'

'P @ Q' means 'P is neither greater than nor smaller than Q'

'P \$ Q' means 'P is neither greater than nor equal to Q'

Now in each of the following questions assuming the given statements to be true, find which of the conclusions I, II and III given below then is/are definitely true?

Q. 24 statements: $F \% T, T @ J, J * W$

conclusions: I. $J @ F$ II. $J * F$ III. $W \$ T$

(A) only I is true (B) only II is true (C) only III is true

(B) only either I or II is true

(E) only either I or II and III are true

sol: (E)

Q. 25 statements: $R * D, D @ K, K \$ M$

conclusion: I. $M * R$ II. $K \$ R$ III. $D * M$

(A) None is true

(B) only I is true

(B) only II is true

(D) only III is true

(E) only II and III are true

sol: (C)

Q. 26 statements: $Z @ F, F \$ M, M \% K$

conclusion I. $K * F$ II. $Z * M$ III. $K * Z$

(A) only I is true (B) only II is true

(C) only III is true (D) only II and III are true

(E) None of the above

sol: (A)

Q. 27 statements: $H @ B, B @ R, A \$ R$

conclusion: I. $B * A$ II. $R \% H$ III. $A \$ H$

(A) only I and II are true (B) only I and III are true

(C) only II and III are true (D) All I, II and III are true

(E) None of above

sol: (D)

Q. 28 statements: $M \$ J, J * T, K @ T$

conclusion: I. $K * J$ II. $M \$ T$ III. $M \$ K$

(A) None is true

(B) only I is true

(B) only II is true

(D) only III is true

only II and III are true

sol: (A)