EduTap

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REASONING

INEQUALITY

Top 25 Questions Based on Inequality

Q1. Which of the following set of symbols should be placed in the blank spaces respectively in order to complete the given expression in such a manner that makes "Z<Y" definitely true?

V ≥ S___Y___X __W = Z

A. ≤, <, ≤

B. <, >, <

C. =, >, ≥

D. ≤, <, =

E. None of the above

Q2. In which of the following expressions does the expression "M > N" and "I > F" definitely hold true?

A. O = I < M ≥ F = K > N > L

B. F = I > P < M = N ≥ Q

C. I = M ≥ F ≤ O = Q > N

D. M = O > N ≥ F < B ≤ I

E. None of the above

Q3. In which of the following expressions does the expression "T≤ M" and "M=P" definitely hold false?

A. N ≤ F = T < P ≥ J = M

B. N > T ≤ M = P < J = F

C. T ≤ M = P ≥ K = J ≥ F

D. T ≤ M = J = P > N > F

E. None of the above

Q4. What will come in the blanks if K < T definitely holds true?

T___C___B___K___M

A. >, =, ≥, <

B. <, >, =, ≥

C. =, <, =,>

D. >, =, ≤, >

E. >, <, ≤, >

Q5. Which of the following symbols should be placed in the blank space respectively (in the same order from left to right) in order to complete the given expression in such a way that "A < B" definitely holds true?

J___A___Y___M___B

A. < , = , ≤ , <

B. < , = , ≤ , >

C. > , = , ≥ , <

D. None follows

E. > , < , ≥ , <

Q6. Which of the following symbols should be placed in the blank space respectively (in the same order from left to right) in order to complete the given expression in such a way that "O<Y" definitely holds false?

T___Y___Z___O___V

A. >, > , = , ≥

B. <, > , < , ≥

C. = , ≥ , ≥ , >

D. All follows

E. None follows

Q7. In which of the following expressions "Z > V" as well as "Y < Z' hold definitely true?

A. Y < X = W ≤ Z ≥ M > V

B. W ≥ X ≥ Y > Z ≤ M = V

C. W < X > Y < Z ≥ M > V

D. None of the above

E. both (a) and (c)

Q8. Which of the following will be true if the expression "W = X ≤ Y ≥ Z and Y ≤ J ≤ I" is definitely true?

A. X > Y

B. I ≥ Y

C. Z > X

D. J ≤ I

E. both (b) and (d)

Directions (Q. 9 – 13): In the following questions, the symbols ©, #, @, □, and $ are used with the following meanings as illustrated below.

'A © B' means 'A is not greater than B'

'A # B' means 'A is neither greater than nor equal to B'

'A @ B' means 'A is neither greater than nor smaller than B'

'A □ B' means 'A is neither smaller than nor equal to B'

'A $ B' means 'A is not smaller than B'

Now, in each of the following questions assuming the given statements to be true, find which of the conclusions given below them are definitely true.

Q9. Statements: P □ Q, R $ Q, R □ V, V © W

Conclusion:

I. W $ P

II. R □ W

III. R □ P

IV. V © P

A. Only I and II are true.

B. Only II, III and IV are true

C. None is true.

D. All I, II, III and IV are true.

E. None of these

Q10. Statement: F # G, G © H, H @ I, I # J

Conclusion:

I. F # J

II. I © F

III. J ▭ G

IV. H # J

A. Only I, III and IV are true.

B. Only I and III are true.

C. All I, II, III and IV are true.

D. Only I, II and IV are true.

E. Only I, II and III are true.

Q11. Statement: N $ P, P @ U, U # X, X © Y

Conclusion:

I. U © N

II. Y ▭ U

III. P # Y

IV. P # X

A. Only I and II are true

B. Only III is true

C. Only III and IV are true

D. Only I, III and IV are true

E. All I, II, III and IV are true.

Q12. Statement: C © D, d ▭ K, K $ L, K @ M

Conclusion:

I. K # C

II. K $ M

III. M # D

IV. L © C

A. Only III is true

B. Only I, III and IV are true

C. Only I and III are true

D. Only II, III and IV are true

E. Only III and IV are true

Q13. Statement: B @ J, J $ T, T $ W, W ▭ Z

Conclusion:

I. W @ B
II. J □ Z
III. Z © B
IV. B □ W
A. Only II and either I or IV are true
B. Only III and IV are true
C. Only I, II and IV are true
D. Only II is true
E. Only I and II are true.

Q14. In which of the following expressions 'A ≥ C' as well as ' E < C' hold definitely false?
A. A ≥ B ≥ C > D = E
B. E < D < C = B ≤ A
C. C ≤ G = P ≤ A
D. A > B > C < D < E
E. None of the above

Q15. In which of the following expressions '# < $' as well as ' $ ≥ %' hold definitely false?
A. $ > * = # > %
B. % ≤ @ ≤ $ > * > #
C. % ≥ @ = $ > * > #
D. $ ≥ @ = % > #
E. None of the above

Q16. In which of the following expressions '1 > 4' as well as ' 5 < 2' hold definitely false?
A. 1 > 2 > 4 > 5
B. 5 > 3 = 2 = 1 < 3 < 4
C. 5 ≤ 8 < 1 ≤ 7 ≤ 2
D. 1>6 ≥ 2 > 4 = 5
E. None of the above

Q17. In which of the following expressions 'R > T' as well as ' P = S 'hold definitely false?
A. R < Q < T ≤ P < U < S
B. P = Q = S > R > U < S
C. T ≤ Q < R < S = U = P
D. S = T < P < R
E. None of the above

Q18. In which of the following expressions 'Z ≤ P 'as well as ' X ≤ Q 'hold definitely false?
A. Q ≥ Y = X = Z ≤ R ≤ P
B. Q ≥ P ≥ X ≥ Z
C. Z = X = R ≤ Q = S ≤ P
D. X ≤ Z ≤ Q ≤ P = R
E. None of the above

Q19. In the following questions assuming the given statements to be true, find which of the conclusion among given conclusions is/are definitely true and then give your answers accordingly.
Statements:
H ≤ Q ≤ R = E; P ≥ B > H
Conclusions:
I. Q ≤ B
II. B > P
A. Neither conclusion I nor II is true.
B. Both conclusions I and II are true.
C. Only conclusion I is true.
D. Only conclusion II is true.
E. Either conclusion I or II is true

Q20. In the following questions assuming the given statements to be true, find which of the conclusion among given conclusions is/are definitely true and then give your answers accordingly.
Statements: Y = X; Z < U < V; X > Z
Conclusions:
I. V > X
II. Y > U
A. None is True
B. Both I and II are True
C. Only II is True
D. Only I is True
E. Either I and II is True

Q21. In each of the following question assuming the given statements to be true, find which of the conclusion among given conclusions is/ are definitely true and then give your answers accordingly.
Statements: P ≥ A ≥ B > C; E < F ≤ G = C
Conclusions:
I. B > F
II. P ≥ G
A. Only II follows
B. Only I follow
C. Both I and II follow
D. Either I or II follow
E. Neither I nor II follows

Q22. In the following question assuming the given statements to be True, find which of the conclusion among given conclusions is / are definitely true and then give your answers accordingly.
Statements: X ≤ Y ≤ K > P; P = Q = R; R < Y
Conclusions:
I. R < X
II. K > R
A. None is True
B. Both I and II are True

C. Only II is True
D. Only I is True
E. Either I or II is True

Q23. In the following question assuming the given statements to be True, find which of the conclusion among given conclusions is / are definitely true and then give your answers accordingly.
Statements: A < B = C > D, D ≥ F ≥ E
Conclusions:
I. B > E
II.C > A
A. None is True
B. Both I and II are True
C. Only II is True
D. Only I is True
E. Either I or II is True

Q24. In these questions, relationship between different elements is shown in the statement. The statement is followed by two conclusions. Choose the correct answer on the basis of information given below
Statement: P ≤ R ≤ C = S > Q > T
Conclusions: I. P < Q
II. S ≥ P
A. Only conclusion I follow
B. Only conclusion II follow
C. Either conclusion I or II follow
D. Both conclusions follow
E. Neither conclusion I nor II follow

Q25. In these questions, relationship between different elements is shown in the statement. The statement is followed by two conclusions. Choose the correct answer on the basis of information given below
Statements: M < T < G ≤ J = U > Y > R

Conclusions: G < U, J > R
A. Only conclusion I follow
B. Only conclusion II follow
C. Either conclusion I or II follow
D. Both conclusions follow
E. Neither conclusion I nor II follow

Answer key with Solutions

1). C
Let us check the validity for each option:

a) V ≥ S ≤ Y < X ≤ W = Z →There are opposite signs between the elements → False
b) V ≥ S < Y > X < W = Z → There are opposite signs between the elements → False
c) V ≥ S = Y >X ≥ W = Z → True (satisfies the condition)
d) V ≥ S ≤ Y < X = W = Z → Y < Z → False
Hence, the correct answer is "=, >, ≥"

2). D
a). O = I < M ≥ F = K > N > L → There are opposite signs between the elements → False
b). F = I > P < M = N ≥ Q → There are opposite signs between the elements → False
c). I = M ≥ F ≤ O = Q > N → There are opposite signs between the elements → False
d). M = O > N ≥ F < B ≤ I →True, satisfies the condition.
Hence, M = O > N ≥ F < B ≤ I, is the answer.

3). A
(a) N ≤ F = T < P ≥ J = M → P ≥ M, T and M have opposite signs between them, definitely holds false
(b) N > T ≤ M = P < J = F → T ≤ M and M = P holds true
(c) T ≤ M = P ≥ K = J ≥ F → T ≤ M and M = P holds true
(d) T ≤ M = J = P > N > F → T ≤ M and M = P holds true
Therefore, the correct answer is option (a).

4). A
T___C___B ___K ___M
a). T > C = B ≥ K < M → Here, K < T definitely hold true.
b). T < C > B = K ≥ M → Here, K < T doesn't hold true.
c). T = C < B = K > M → Here, K < T doesn't hold true.
d). T > C = B ≤ K > M → Here, K < T doesn't hold true.
e). T > C < B ≤ K > M → Here, K < T doesn't hold true.
Therefore, option (a) is the correct answer.

5). A
(a) J < A = Y ≤ M < B → True (satisfies the condition)
(b) J < A = Y ≤ M > B → There are opposite signs between the elements → False
(c) J > A = Y ≥ M < B → There are opposite signs between the elements → False
(e) J > A < Y ≥ M < B → There are opposite signs between the elements → False
Correct answer is option (a).

6). B
(a) T > Y > Z = O ≥ V, O < Y holds true
(b) T < Y > Z < O ≥ V, O and Y have opposite signs between them, definitely holds false.
(c) T = Y > Z ≥ V > O, O < Y holds true
Correct answer is option (b).

7). E
(a) W ≤ X = Y ≤ Z ≥ M > V → Z > V as well as Y < Z holds true.
(b) W ≥ X ≥ Y > Z ≤ M = V → Z > V and Y < Z does not hold true.

(c) W < X > Y < Z ≥ M > V → Z > V as well as Y < Z holds true.
Correct answer is option (e).

8). E
(a) W = X ≤ Y ≥ Z and Y ≤ J ≤ I, X > Y holds false
(b) W = X ≤ Y ≥ Z and Y ≤ J ≤ I, I ≥ Y holds true
(c) W = X ≤ Y ≥ Z and Y ≤ J ≤ I, W > X holds false
(d) W = X ≤ Y ≥ Z and Y ≤ J ≤ I, J ≤ I holds true
Therefore, Correct answer is option (e).

9). C
Given statements:
P □ Q ⇒ P > Q ... (i)
R $ Q ⇒ R ≥ Q ... (ii)
R □ V ⇒ R > V ... (iii)
V © W ⇒ V ≤ W ... (iv)
Combining (i), (ii), (iii) and (iv), we get
P > Q ≤ R > V ≤ W ... (v)
We can't compare W and P.
Thus, W $ P ⇒ W ≥ P is not true.
We can't compare R and W.
R □ W ⇒ R > W is not true.
We can't compare R and P.
R □ P ⇒ R > P is not true.
We can't compare V and P.
V © P ⇒ V ≤ P is not true.
Hence, none is true.

10). A
Given statement:
F # G ⇒ F < G ... (i)
G © H ⇒ G ≤ H ... (ii)
H @ I ⇒ H = I ... (iii)
I # J ⇒ I < J ... (iv)
Combining (i), (ii), (iii) and (iv), we get
F < G ≤ H = I < J
Thus, F # J ⇒ F < J is true.
Again, F < I or I > F is true.
But, I © F ⇒ I ≤ F is not true.
J □ G ⇒ J > G is true.
H # J ⇒ H < J is true.
Hence, only I, III and IV are true.

11). E
Given statement:

N $ P ⇒ N ≥ P … (i)
P @ U ⇒ P = U … (ii)
U # X ⇒ U < X … (iii)
X © Y ⇒ X ≤ Y … (iv)
Combining (i), (ii), (iii) and (iv), we get
N ≥ P = U < X ≤ Y … (v)
Thus, U © N ⇒ U ≤ N or N ≥ U is true
Y □ U ⇒ Y > U is true.
P # Y ⇒ P < Y is true.
P # X ⇒ P < X is true.
Hence, all I, II, III are IV are true.

12). A
Given statements:
C © D ⇒ C ≤ D … (i)
D □ K ⇒ D > K … (ii)
K $ L ⇒ K ≥ L … (iii)
K @ M ⇒ K = M … (iv)
Combination (i), (ii), (iii) and (iv), we get
C ≤ D > K = M ≥ L … (v)
Thus, we can't compare K and C.
K # C ⇒ K < C is not true.
K $ M ⇒ K ≥ M is not true.
M # D ⇒ M < D is true.
We can't compare L and C.
L © C ⇒ L ≤ C is not true.
Hence only III is true.

13). A
Given statements:
B @ J ⇒ B = J … (i)
J $ T ⇒ J ≥ T … (ii)
T $ W ⇒ T ≥ W … (iii)
W □ Z ⇒ W > Z … (iv)
Combining (i), (ii), (iii) and (iv), we get
B = J ≥ T ≥ W > Z … (v)
Thus, W @ B ⇒ W = B is not true.
J □ Z ⇒ J > Z is true.
Z © B ⇒ Z ≤ B is not true.
B □ W ⇒ B > W is not true.
But I and IV make a complementary pair as B ≥ W.
Hence, only II and either I or IV are true.

14). D
'A ≥ C' as well as ' E < C' do not hold definitely false in A > B > C < D < E.

15). C

'# < $' as well as ' $ ≥ %' hold definitely false in % ≥ @ = $ > * > #.

16). B

'1 > 4' as well as ' 5 < 2' hold definitely false in 5 > 3 = 2 = 1 < 3 < 4.

17). A

'R > T' as well as ' P = S 'hold definitely false in R < Q < T ≤ P < U < S.

18). E

'Z ≤ P 'as well as ' X ≤ Q 'hold definitely false in any of the given expressions.

19). A

Given statements: H ≤ Q ≤ R = E; P ≥ B > H

On combining the given statements: P ≥ B > H ≤ Q ≤ R = E

Conclusions:

I. Q ≤ B → False (as B > H ≤ Q) → thus relation between Q and B cannot be determined.

II. B > P → False (as P ≥ B).

Hence, neither conclusion I nor II is true.

20). A

Given statements: Y = X; Z < U < V; X > Z

On combining: Y = X > Z < U < V

Conclusions:

I. V > X → False (as X > Z < U < V → thus clear relation between V and X cannot be determined)

II. Y > U → False (Y = X, X > Z and Z < U thus clear relation between Y and U cannot be determined)

Hence, none of the two follows.

21). B

Given statement: P ≥ A ≥ B > C; E < F ≤ G = C

On combining: P ≥ A ≥ B > C = G ≥ F > E

Conclusion:

I. B > F → True (as B > C → C = G → G ≥ F → So, B > F)

II. P ≥ G → False (as P ≥ A → A ≥ B → B > C → C = G) '>' symbol is used between P and G. Hence, the relation between P and G is P > G.

Therefore, only conclusion I follows.

22). C

Given statements: X ≤ Y ≤ K > P; P = Q = R; R < Y

On combining: X ≤ Y ≤ K > P = Q = R; R < Y

Conclusions:

I. R < X → False (as X ≤ Y and R < Y → thus clear relation between R and X cannot be determined)

II. K > R → True (as K > P = R)

Hence, Only II is True.

23). B

Given statements: A < B = C > D, D ≥ F ≥ E

Conclusions:

I. B > E → True [B = C > D ≥ F ≥ E, Hence, B > E]

II. C > A → True [AS C = B > A]

Hence, both I & II are true

24). B

Statement: P ≤ R ≤ C = S > Q > T

Conclusions: I. P < Q II. S ≥ P

Checking conclusion, I: P < Q

From the given statement, we get: P ≤ R ≤ C = S > Q

The common sign of inequalities between P and Q are reversed and therefore no definite conclusion can be withdrawn between these two elements.

Hence, C1 doesn't follow.

Checking conclusion II: S ≥ P

As we can see that in the given statement while moving from S towards P, the common sign between these two elements is '≥' and the given conclusion is also S ≥ P.

Therefore, C2 follows here.

Option B is hence the correct answer.

25). B

Statements: M < T < G ≤ J = U > Y > R

Conclusions: G < U, J > R

Here, the common sign between G and U is '≤', hence G < U does not follow.

Therefore conclusion I does not follow.

And, the common sign between J and R is '>', thus J > R follows.

Therefore, conclusion II follows.

Hence option C is correct.