Related Questions with Solutions

Questions

Quetion: 01

In the set $A = \{1, 2, 3, 4, 5\}$, a relation R is defined by $R = \{(x, y) | x, y \in A$ and $x < y\}$. Then R is,

A. Reflexive
B. Symmetric
C. Transitive
D. None of these

Solutions

Solution: 01

Q A = {1, 2, 3, 4, 5}

- R = {[x, y] | x, y ∈ A and x < y}
- R = {[1, 2], [1, 3], [1, 4], [1, 5], [2, 3], [2, 4], [2, 5], [3, 4], [3, 5], [4, 5]

Q [1, 1] ∉ R
So, relation R is not Reflexive
Q [1, 2] ∈ R while, [2, 1] ∉ R
So, given relation R is not symmetric.
Q [1, 2], [2, 3] ∈ R
∴ [1, 3] ∈ R
Similarly, for other Combinations
So, given relation R is Transitive.

Correct Options

Answer:01
Correct Options: C