

## Graph-Theoretic Property: *atis* **ConnectedComponentsSet**

(*Graph-theoretic properties* are those properties that are part of the meta-theory and have been abducted from graph theory to be used as a tool to provide solutions concerning the theory. Those solutions may be assigned as values to components or relations of the theory and thereby become part of the theory.)

**Connected components set**,  ${}_cC$ , =<sub>df</sub> a set of components that are pair-wise connected.

$${}_c\mathcal{C} =_{df} \mathcal{X} = \{x \mid x \in \mathcal{RCS}_0 \wedge \exists y \in \mathcal{R}(x \neq y \wedge (x,y) \in E)\}$$

**Connected components set** is a set of components,  $x$ ; such that, the components,  $x$ , are in a subset of the object-set, and there exist distinct components,  $y$ , of the subset such that  $(x,y)$  are connected.

The following diagram depicts a *Connected Components Set*.

