

Course Name: A Level (1<sup>st</sup> Sem)  
Topic: FD – Canonical Cover (Part 9)

Subject : Introduction to DBMS  
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## Canonical Cover of Functional Dependency

**Canonical Cover** of functional dependency is also called **minimal set** of functional dependency or **irreducible form** of functional dependency. If  $F$  is the set of functional dependencies in a relational schema  $R$ , then canonical cover of FD is denoted by  $F_c$ .

Canonical cover means to find/check any set of FDs whether there exist any extra or redundant attribute or functional dependency. An attribute is said to extraneous if its presence or absence does not affect the compatibility and behaviour of the system.

If  $\alpha \rightarrow \beta$  holds in any relation, then there may be following:

1. The left side ( $\alpha$  side) may have some extra attribute.
2. The right side ( $\beta$  side) may have some extra attribute.
3. The whole FD  $\alpha \rightarrow \beta$  may be extra in the system.

It is very important to have minimal but complete set of functional dependencies for any relation because if we have too many functional dependencies then we have to make extra efforts to ensure that functional dependencies do not violate when any data is added/deleted/modified

### Exercise:

1. What do you understand by canonical cover of functional dependency?

