How does losing make it positive and gaining make it negative?

·Ca·

Calcium atom has two dots

Calcium atom has 20 protons   +
Calcium atom has 20 electrons   _

Calcium ION loses two electrons (loses the two dots) = +2 charge

Calcium ION has 20 protons   +
Calcium ION has 18 electrons   _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

_____

·N·

Nitrogen atom has five dots

Nitrogen atom has 7 protons   + + + + + + +
Nitrogen atom has 7 electrons   _ _ _ _ _ _ _

Nitrogen ("nitride") ION gains three electrons (fills the valence shell) = -3 charge

Nitrogen ("nitride") ION has 7 protons   + + + + + + +
Nitrogen ("nitride") ION has 10 electrons   _ _ _ _ _ _ _ _ _ _