

1. A neutral atom with atomic number 6 will have 6 electrons and 6 protons.
2. The maximum number of electrons that can exist in an given atom shell n is calculated be the formula

$$N = 2n^2$$

This means that the maximum number of electronics in the third shell of an atom is

$$2 \cdot 3^2 = 2 \cdot 9 = 18$$