

SUBJECT - CHEMISTRY
 CLASS - BSc (Sub. Chem) PART-1
 GROUP - B

TOPIC - Electronic Configuration of elements.

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Q Discuss the electronic Configuration of elements.

Electronic Configuration of elements: The Configuration, we mean the arrangement. The electronic Configuration of an element is the arrangement of electrons in orbitals of its atom. The number of electrons is equal to the atomic number of an element -

Atomic number of element = Number of electrons.

In case of cation, the number of charges present on it is subtracted while in case of an anion that is added to the atomic number of an element while calculating its number of electrons e.g.

Number of electrons present in $\text{Na}^+ = 11 - 1 = 10$

Number of electrons present in $\text{Cl}^- = 17 + 1 = 18$

The properties of elements depend mainly upon the valence shell electronic Configuration. In short, it is called the valence Configuration. The valence Configuration is obtained by knowing the atomic number of preceding noble gases -

(i) He or [2] shows 1st is filled and hence electrons will go to 2s and other higher energy orbitals.

(ii) Ne or [10] 2nd " 3s " " "

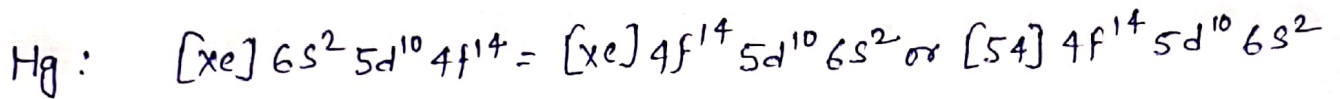
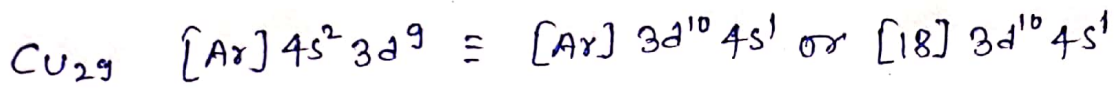
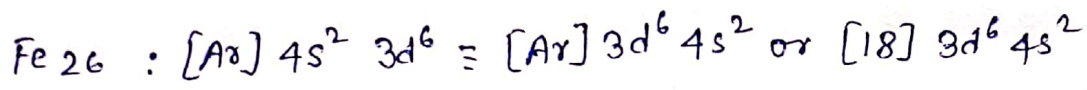
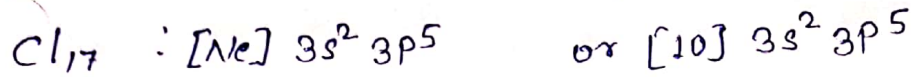
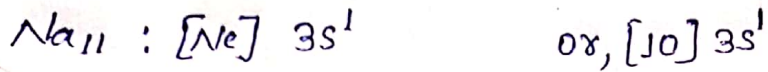
(iii) Ar or [18] 3rd " 4s " " "

(iv) Kr or [36] 4th " 5s " " "

(v) Xe or [54] 5th " 6s " " "

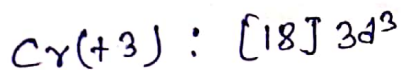
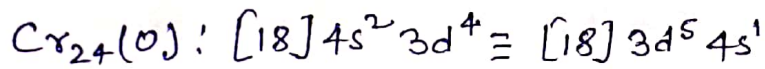
(vi) Rn or [86] 6th " 7s " " "

Examples:



The electronic configuration of elements also depends upon

The oxidation states e.g



where (0) and (+3) show oxidation states of Chromium.