



STD 10– FIRST BELL – CHEMISTRY – CLASS-07

Chapter – 1

PERIODIC TABLE AND ELECTRONIC CONFIGURATION

d block elements

- The group number of d block elements will be the same as the total number of electrons in the outermost "s" subshell and the number of electrons in the preceding "d" subshell.

Elements	Atomic number	Subshell electronic configurations	Subshell which last electron is added	Block	No of outermost shell	Period number	Group number
V	23	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^3 4s^2$	d	d	4	4	5
Fe	26	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^6 4s^2$	d	d	4	4	8
Zn	30	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2$	d	d	4	4	12
Sc	21	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^1 4s^2$	d	d	4	4	3

f block elements

- The f block elements are the elements coming after lanthanum and actinium and are placed in two rows at the bottom of the periodic table.

Characteristics of s block element

- Their oxides and hydroxides gave basic nature.
- In each period s block elements have maximum atomic size.
- They show a more metallic nature.
- They have less Electronegativity.
- They form ionic compounds
- First group elements show +1 oxidation state and second group elements show +2 oxidation states in compounds.
- The valency of first group elements in their compounds will be 1 and second group elements 2.
- They have less ionisation energy.

HOME WORK

1. If subshell electronic configuration of an element X is given $1s^2 2s^2 2p^6 3s^2 3p^6 3d^6 4s^2$. Find the following answers.
 - a) Atomic number
 - b) Period number
 - c) Group number
 - d) Block.
2. Complete the Table. (valency of Oxygen=-2)

Group	Valency	Oxidation state	Symbols of ions	Chemical formula of oxides
First group [X]	1	+1	X_2O
Second group [Y]	2	Y^{2+}

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