

SSLC -Chemistry -Class -07

Periodic Table and Electronic Configuration

d block elements

Look at the table given below.

മൂലകം Element	സബ് ഷെൽ ഇലക്ട്രോൺ വിന്യാസം Sub shell electronic configuration	അവസാന ഇലക്ട്രോൺ പൂരണം നടന്ന സബ് ഷെൽ Sub shell electronic configuration	ബാഹ്യതമ ഷെൽ നമ്പർ Sub shell electronic configuration	പീരിയഡ് നമ്പർ Period Number	ഗ്രൂപ്പ് നമ്പർ Group number
$_{23}\text{V}$	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^3 4s^2$	d	4	4	5
$_{25}\text{Mn}$	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^5 4s^2$	d	4	4	7
$_{30}\text{Zn}$	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2$	d	4	4	12

The period number is same as the shell number of the outer most shell in the subshell electronic configuration.

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

d block elements are those in which the last electron is filled in the d subshell of the penultimate shell.

They are also known as transition elements.

f block elements

f-block

Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr

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.

The last electrons in these elements are filled up in the antepenultimate shell. The elements in the first row are called Lanthanoids and those in the second row are called Actinoids.

These elements belong to the 6th and 7th periods respectively.

Characteristics of s block elements

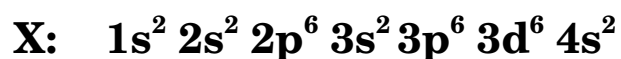
- They are metals
- Their oxides and hydroxides have basic nature.
- In each period s block elements have maximum atomic size
- They show more metallic nature.
- They have less Electro Negativity
- They form ionic compounds
- 1st group elements shows +1 oxidation state and 2nd group elements shows +2 oxidation states in compounds.
- The valency is of 1st group elements in their compounds will be 1 and 2nd group elements 2.

Questions

1. Write the subshell electronic configuration of Zinc ,(₃₀Zn) ?

a) Find out the Block, Period and Group of this element ?

2. The subshell electronic configuration of an element X is given below. (Symbol is not real). Answer the following questions.



a) Find out the Atomic number ?

b) Identify the block ?

c) Write the group number , and period number ?
