KITE VICTERS ONLINE CLASS - 02-07-2021

SSLC -Chemistry -Class-05

Periodic Table and Electronic Configuration

Subshells

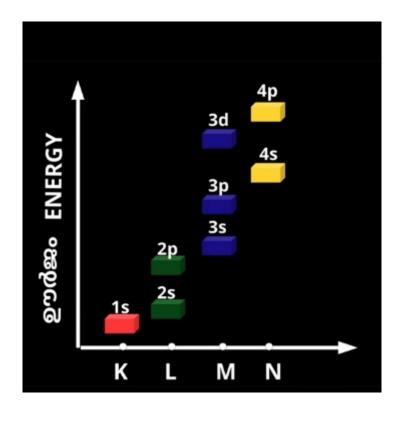
 $3p^6$

- 3- Shell number.
- p- Subshell.
- 6- Number of electron in the subshell

Filling of electrons in the subshell

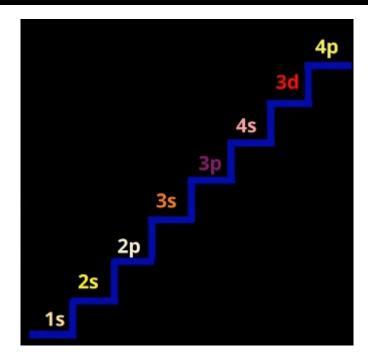
Electron filling takes place in the order of increasing energy

Sub shells and their energies.



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1s < 2s< 2p< 3s< 3p< 4s< 3d< 4p



The energy of 4s subshell is less than that of 3d

Element	Atomic Number	Subshell electronic configuration
Be	4	1s ² 2s ²
Ar	18	1s ² 2s ² 2p ⁶ 3s ² 3p ⁶
K	19	1s ² 2s ² 2p ⁶ 3s ² 3p ⁶ 4s ¹
Sc	21	1s ² 2s ² 2p ⁶ 3s ² 3p ⁶ 3d ¹ 4s ²

Subshell electronic configuration (Short form)

Element	Subshell electronic configuration	Short form
Be	1s ² 2s ²	[He] 2s ²

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Mg	1s ² 2s ² 2p ⁶ 3s ²	[Ne] 3s ²
Sc	1s ² 2s ² 2p ⁶ 3s ² 3p ⁶ 3d ¹ 4s ²	[Ar] 3d ¹ 4s ²

Questions

- A. The subshell electronic configuration of an atom is $1s^2 2s^2 2p^6 3s^2$. Write the answers of the following
- 1. What is the atomic number of the element?
- 2. How many shells are present in this atom?
- 3. Which is the common subshell seen in all the shells?
- 4. What is the total number of electrons in this atom?
- 5. Write the subshell electronic configuration in short form
