

Chemistry



9th Class

Sindh Board Notes

Chapter # 4

Periodicity of Elements



Fill In Blanks

پنجاب، سندھ، بلوچستان، خیبر پختونخواہ، بورڈز کے تمام نوٹس سابقہ پیپرز، اس ویب سائٹ سے فری ڈاؤن لوڈ کریں۔

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➔ PERIODICITY OF ELEMENTS

1. The rule of triad was introduced by **Dobereiner**.
2. The repetition of properties after regular intervals is called **periodicity**.
3. The longest period is **sixth** period and contains total **12** elements.
4. The elements that contain both metallic and non-metallic characteristics are called **metalloids**.
5. The long form of periodic table contains **8** groups and **2** periods.
6. According to Mendeleev the properties of the elements are the periodic functions of their **atomic mass**.
7. Allah has created this universe from basic units called **elements**.
8. Recently a complete classification is based on **atomic number** of the elements.
9. In 1829, Dobereiner classified chemically similar elements in groups of three on the basis of their **atomic masses**.
10. These groups of three elements were called **triads**.
11. Newland named this law as law of **octaves**.
12. Repetition of properties after regular intervals is called **periodicity**.
13. **Lothar Meyer** in 1869 published a periodic table in which he arranged 56 known elements on the basis of their **atomic masses** in **9** vertical columns or groups from I to IX.
14. **Atomic volume** = Gram atomic weight
15. According to Mendeleev's periodic law, the physical and chemical properties of elements are a periodic function of their **atomic weights**.
16. The horizontal rows in periodic table are called **periods**.

17. The vertical columns in the periodic table are called **groups**.
18. There are total **7** periods in periodic table.
19. The group number indicates the **valence number**.
20. The eka-boron is named as **Scandium** (Sc).
21. The eka-aluminium is named as **Galium** (Ga).
22. The eka-silicon is named as **Germanium** (Ge).
23. Modern periodic law states that the physical and chemical **properties** of all elements are periodic functions of their atomic **numbers**.
24. Modern periodic table is also known as **Bohr's Long Form** of Periodic Table.
25. In periodic table there are 6 complete period and **1** incomplete period.
26. There are **8** groups in periodic table.
27. First period consists of 2 elements **hydrogen** and **helium**.
28. Second and third periods are called **short** periods containing **8** elements each.
29. Fourth and fifth periods are called **long** periods each containing 18 elements.
30. In fourth period there are 8 normal elements and 10 **transition elements**.
31. **Transition** elements are metal and usually form coloured compounds.
32. Sixth period is the longest period containing **32** elements.
33. **Seventh** period is incomplete period.
34. Inner transition elements of group VI are called **lanthanides**.
35. Inner transition elements of group VII are called **actinides**.
36. Actinides are **radioactive** elements.
37. Alkali means **ashes**.

38. Elements of group IA are called alkali metals.
39. Elements of group IIA are called alkaline earth metals.
40. Elements of group IIIA are called boron or aluminum family.
41. Elements of group IVA are called carbon and silicon family.
42. Elements of group VA are called nitrogen family.
43. Elements of group VIA are called oxygen family.
44. Elements of group VIIA are called halogen family.
45. Elements of group VIIIA are called zero group or noble gases.
46. Outer most shell of group VIIIA is complete.
47. Boron is metalloid.
48. All elements of group VIA show the property of allotropy.
49. Halogen means salt former.
50. Halogen exists in diatomic molecules.
51. Halogens are not found in free state.
52. The normal elements are kept in A group.
53. Transition elements are kept in B group.
54. Fluorine is the most electronegative element.
55. Cesium is the most electropositive element.
56. Transition elements are characterized by the filling up of electrons in d or f orbital.
57. Argon (Ar) is the most abundant noble gas.
58. The element Astatine of group VIIA is radioactive.
59. The element Radon of group VIIIA is also radioactive.

60. Copper (Cu), silver (Ag) and gold (Au) are called coinage metals.
61. Helium and Xenon belong to group VIIIA noble gases.
62. Metals are electropositive elements.
63. All transition elements are metals.
64. All elements of group IA and IIA are metals.
65. Non metals are the elements which do not have lustre and are bad conductors of heat and electricity.
66. Non metals are electronegative elements.
67. Most of the non metals are gases.
68. Metalloids are the elements which show the properties of both metals as well as non-metals.
69. Oxides of metalloids are amphoteric i.e. basic as well as acidic in nature.
70. Boron, Silicon, Germanium, Arsenic, Antimony, Tellurium, Polonium and Astatine are metalloids.
71. The atomic radius may be defined as half the distance between two adjacent nuclei of two similar atoms in touch with each other.
72. Atomic radius is measured in Angstrom (A°).
73. $1\text{A}^\circ = \underline{10\text{ cm}}$.
74. The minimum energy required to remove one electron from a gaseous atom in its ground state is called ionization energy.
75. ionization energy is measured in KJ/mole.
76. The ionization energy of hydrogen is 1312 K.J/mole.
77. Electron affinity is defined as the energy change that occurs when an electron is gained by an atom in the gaseous state.
78. Electron affinity is measured in KJ/mol or in e.v.

79. In a period, the affinity **increases** from left to right.
80. **Electro negativity** is defined as the relative tendency of an atom in a molecule to attract shared pair of electrons to itself.
81. Electro negativity is denoted by a **number** and has no **unit**.
82. Linus Pauling considered the electro negativity of **fluorine** as standard with its electro negativity = **4**.

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