



Blue Print (As per PU Board)

Topic	1 mark questions	2 marks questions	3 marks questions	5 marks questions	Total Marks
Classification of Elements & Periodicity in Properties	1	-	1	-	4

One mark questions

1. State modern periodic law.

Answer: Physical and chemical properties or properties of the elements are periodic functions of their atomic numbers

2. Give the IUPAC name of the element whose atomic number is 109?

Answer: Unnilennium

3. What are 'representative elements'?

Answer: s and p block

4. Write the general outer electronic configuration of d block elements.

Answer: $(n-1)d^{1-10} ns^{0-2}$

5. A metal X forms coloured ions, is paramagnetic and is used as a catalyst. Predict the block to which the metal belongs.

Answer: d - block

6. In bromine molecule (
- Br_2
-) the bond distance is 228 pm. What is the covalent radius of bromine?

Answer: 114 pm

Two marks questions

7. What are the subshells filled in (i) 2
- nd
- period (ii) 4
- th
- period?

Answer: (i) 2s and 2p

(ii) 4s, 3d and 4p

8. Write the electronic configuration of the element with atomic number 118. Predict the group the element belongs to.

Answer: $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10} 5p^6 6s^2 4f^{14} 5d^{10} 6p^6 7s^2$

$5f^{14} 6d^{10} 7p^6$ or $[Rn] 7s^2 5f^{14} 6d^{10} 7p^6$

18 group or noble gas group.

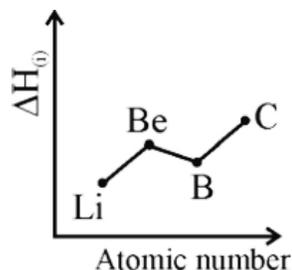
9. What are metalloids? Give an example.

Answer: Elements that show properties similar to both metals and nonmetals

Silicon (or any other)

10. Draw a graph showing the variation of ionisation enthalpy with atomic number for the elements Li, Be, B and C.

Answer:



Graph-1 Position of elements-1



11. **Ionisation enthalpy of aluminium is less than that of magnesium. Justify the statement.**

Answer: In magnesium the electron has to be removed from 3s orbital which is closer to the nucleus.

In aluminium the electron has to be removed from 3p orbital which is far from the nucleus and is also well shielded by 3s electrons.

12. **Between fluorine and chlorine which one of these has low electron gain enthalpy. Give reason.**

Answer: Fluorine

The electron is added to 2p orbital which is small and experiences more repulsion from other electrons.