
📘 Chapter 5 – Periodic Classification of Elements (30 Important Q&A)

Basic Concepts

Q1. Who proposed the Modern Periodic Table?
Ans: Henry moseley

Q2. On what basis are elements arranged in the modern periodic table?
Ans: Increasing atomic number

Q3. How are periods arranged?
Ans: Horizontal rows

Q4. How are groups arranged?
Ans: Vertical columns

Q5. Define a group.
Ans: Vertical column of elements with similar chemical properties

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Properties & Trends

Q6. Define period.
Ans: Horizontal row of elements in which properties change gradually

Q7. Which is the most reactive metal in Group 1?
Ans: Francium (Fr)

Q8. Which is the most reactive non-metal in Group 17?
Ans: Fluorine (F)

Q9. Atomic size increases in a group:
Ans: From top to bottom

Q10. Atomic size decreases in a period:
Ans: From left to right

Ionisation & Electronegativity

Q11. Ionisation energy definition:
Ans: Energy required to remove an electron from an atom in gaseous state

Q12. Ionisation energy increases across a period because:
Ans: Nuclear charge increases, electrons held tightly

Q13. Ionisation energy decreases down a group because:
Ans: Electrons are farther from nucleus

Q14. Electronegativity definition:
Ans: Ability of an atom to attract electrons in a bond

Q15. Electronegativity trend:
Ans: Increases across a period, decreases down a group

Metallic and Non-Metallic Properties

Q16. Metallic character trend:
Ans: Decreases across a period, increases down a group

Q17. Non-metallic character trend:
Ans: Increases across a period, decreases down a group

Q18. Most metallic element in Group 1:
Ans: Francium (Fr)

Q19. Most non-metallic element in Period 2:
Ans: Fluorine (F)

Q20. Why do metals lose electrons easily?
Ans: Low ionisation energy

Specific Groups

Q21. Group 1 elements are called:
Ans: Alkali metals

Q22. Group 2 elements are called:
Ans: Alkaline earth metals

Q23. Group 17 elements are called:
Ans: Halogens

Q24. Group 18 elements are called:
Ans: Noble gases

Q25. Why are noble gases inert?
Ans: Complete outer electron shell

Special Cases / Real-life Applications

Q26. Sodium reacts with water to produce:
Ans: $NaOH + H_2$

Q27. Chlorine is used for:
Ans: Disinfecting water

Q28. Calcium is used in:
Ans: Cement and bones formation

Q29. Helium is used in balloons because:
Ans: It is light and inert

Q30. Hydrogen is placed separately in the periodic table because:
Ans: It behaves like both alkali and halogen in some reactions