Step Academy official
Model Town Grw PH: 03016652757

STUDENT NAME	
PAPER CODE	51526
TIME ALLOWED	40
Paper Date	16-02-2026

CLASS	New 1st Year (FSC/ICS)
SUBJECT	Chemistry
TOTAL MARKS	25
Paper Type	

Q1. **Choose the correct answer.** **5X1=5**

1. Pairs of subatomic particles must always be equal in a neutral atom.

(A) Protons and neutrons   **(B)** Electrons and neutrons   **(C)** Protons and electrons   **(D)** Nucleons and electrons

2. The Minimum amount of energy required to remove an electron from its gaseous atom is called:

(A) Ionization energy   **(B)** Oxidation   **(C)** Electron affinity   **(D)** Reduction

3. An orbital which is spherical and symmetrical is:

(A) S-orbital   **(B)** P-orbital   **(C)** D-orbital   **(D)** F-orbital

4. According to $(n+\ell)$ rule. Which one of the following has the highest energy?

(A) 2s   **(B)** 3s   **(C)** 3p   **(D)** 2p

5. Which of the following orbitals is dumb bell shaped?

(A) s-orbital   **(B)** p-orbital   **(C)** d-orbital   **(D)** f-orbital

Q3. **Write short answers of the following questions.** **10X2=20**

1 . State Moseley's Law.

2 . Define spectrum. Give its two types.

3 . How many orbitals are possible for n = 4? Show how you calculate it.

4 . Can two orbitals of the same subshell have different shapes?

5 . What is the Pauli's Exclusion Principle? Give example.

6 . How are x - rays produced?

7 . How is atomic emission spectrum obtained?

8 . How does the number of nodal planes affect the shape of orbitals?

9 . Write down shape of the d - orbitals.

10 . What is the Hund's rule? Give example.