



ST. JOSEPH'S COLLEGE, PRAYAGRAJ

FIRST UNIT TEST 2025-26

CHEMISTRY

CLASS – X

TIME: 1 Hour

MM: 30

Section – A

Q 1) (a) Choose the correct option:

[4]

i. Electron affinity is maximum in-

A. Magnesium

B. Argon

C. Lithium

D. Bromine

ii. In the 2nd period, Neon has maximum Ionisation potential because-

A. it has unstable electronic configuration

B. it easily accepts electrons

C. it easily loses electrons

D. the outermost shell is completely filled

iii. The non-metallic properties of elements from left to right in a periodic table -

A. increases

B. decreases

C. remains same

D. first increases and then decreases

iv. If an element A belongs to Period 3 and Group 13 then it will have?

A. 3 shells and 2 valence electrons

B. 2 shells and 3 valence electrons

C. 3 shells and 3 valence electrons

D. 3 shells and 13 valence electrons

(b) Define the following:

[2]

i. Group

ii. Ionization Potential

(c) Identify the term:

[2]

i. The distance from the center of an atom's nucleus to its outermost electron shell.

ii. The tendency of an atom in a molecule to attract the shared pair of electrons towards itself.

(d) Give reason:

[2]

i. Alkali metals are good reducing agents..

ii. Ionisation potential decreases down the group.

Section – B

Q 2) (a) State the modern periodic law.

[1]

(b) The position of three elements A, B and C in the periodic table are shown below:

[3]

Period	Group 2	Group 17
1		
2		A
3		
4	B	C

(i) State whether A is a metal or a non-metal?

(ii) State whether C is more or less reactive than A

(iii) Which type of ion, cation or anion, will be formed by element B?



(c) Answer the following:

[3]

(i) What do you understand by the term 'Electron Affinity' ?

(ii) Which element has the highest electron affinity, fluorine or chlorine. Why?

(iii) Arrange the following in the order of increasing Electron Affinity - O, Li, F, C

(d) Arrange the following as per the instructions given in the brackets:

[3]

(i) Cl, Li, F, N (Decreasing order of electronegativity)

(ii) Na, K, Cl, S, Si (increasing order of ionisation energy).

(iii) Cs, Na, Li, K, Rb (decreasing order of metallic character)

Q 3) (a) i. Name

[2]

(a) the element of lower nuclear charge out of **Be** and **Mg**.

(b) the element of Period 3 with valency 4.

ii. In group I of the periodic table, three elements **X, Y** and **Z** have ionic radii **1.33 Å**, **0.95 Å** and **0.60 Å** respectively. Giving a reason, arrange them in the order of increasing atomic numbers in the group.

[2]

(b) Which is greater in size?

[2]

(a) An atom or an anion.

(b) Fe^{2+} or Fe^{3+}

(c) The atomic number of an element is 16. State-

[4]

i. Its Period Number

ii. Its Group Number

iii. Number of valence electron(s) in the element

iii. Whether the element is metal or non-metal.