Q.4 Which of the following has Higher I.E

(1) Ng
(2) K
(3) Sc
(4) Cs

PERIODIC TABLE

(2019)

1. In general, the properties that decrease and increase down a group in the periodic table, respectively, are:

(A) atomic radius and electronegativity

(B) electron gain enthalpy and electronegativity.

(C) electronegativity and atomic radius.

(D) electronegativity and electron gain enthalpy.

PERIODIC TABLE

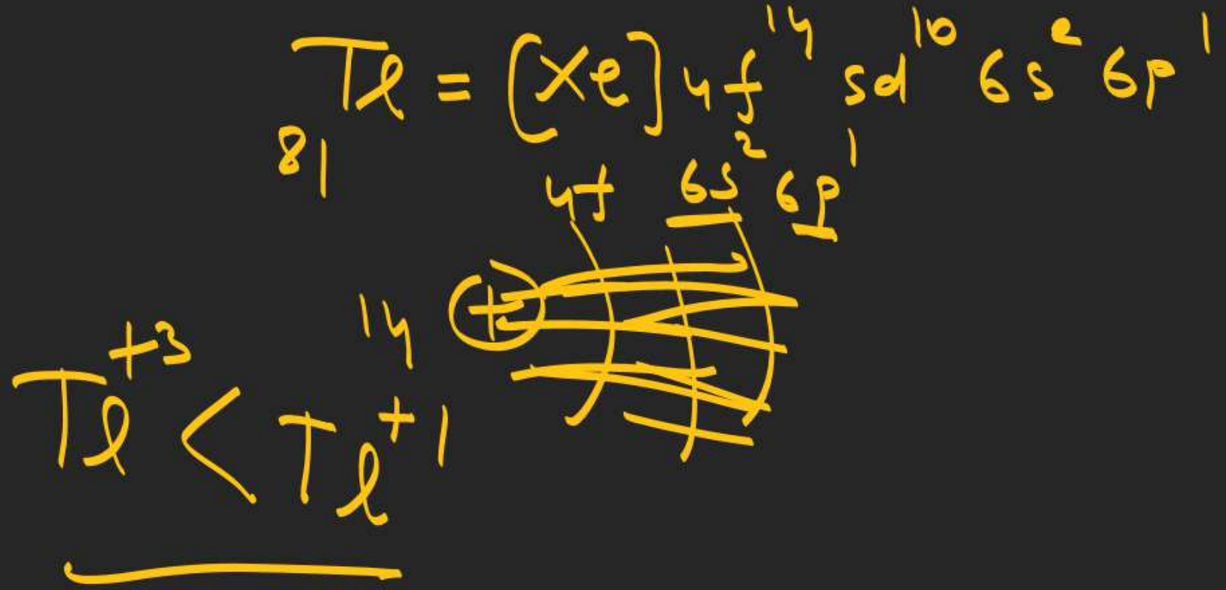
2. Aluminium is usually found in +3 oxidation state. In contrast, thallium exists in +1 and +3 oxidation states. This is due to:

(A) inert pair effect

(B) diagonal relationship

(C) lattice effect

(D) lanthanoid contraction



PERIODIC TABLE

3. When the first electron gain enthalpy($\Delta_{eg}H$) of oxygen is –141 kj/mol, its second electron gain enthalpy is:

(A) a more negative value than the first

(B) almost the same as that of the first

(C) negative, but less negative than the first

(D) a positive value

$X + e^- \longrightarrow X^{\ominus}$ ΔH_{eg} = -ive

$X^{\ominus} + e^- \longrightarrow X^{-2}$ ΔH_{eg} = +ive

PERIODIC TABLE

4. The electronegativity of aluminium is similar to:

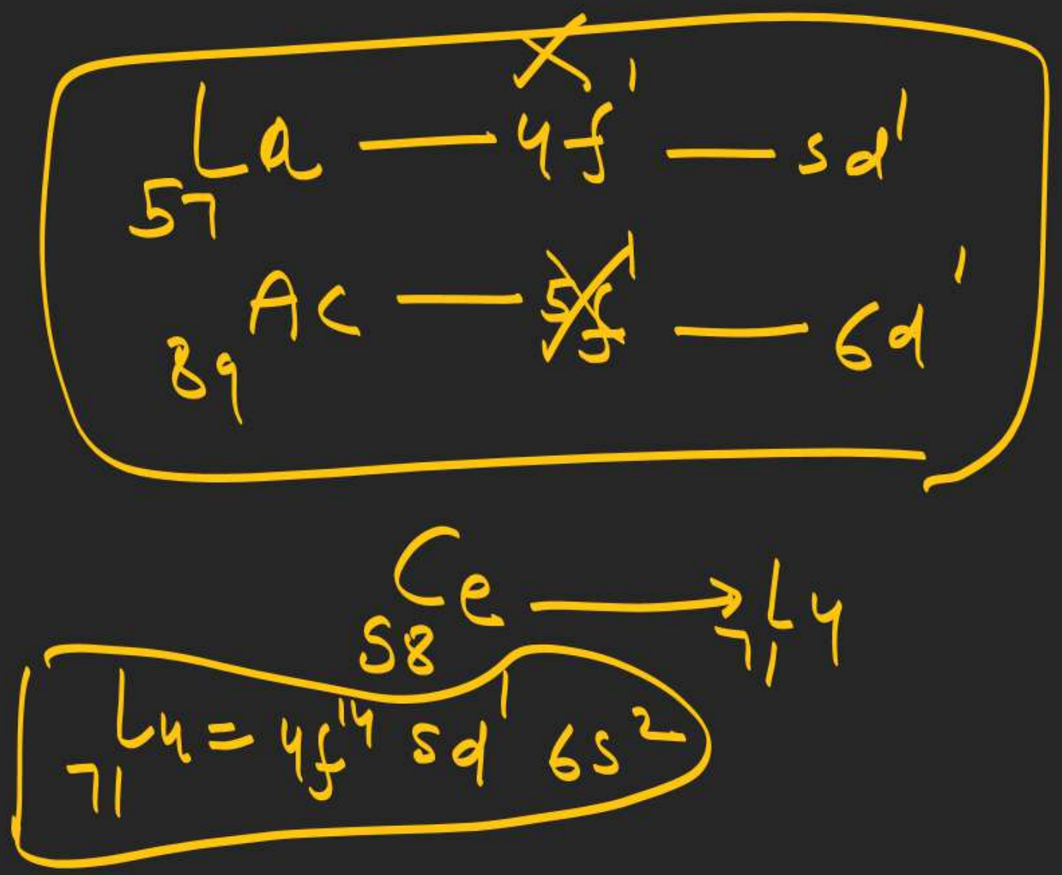
(A) Carbon (B) Beryllium (C) Boron (D) Lithium

Diagonal Relation

PERIODIC TABLE

5. The 71st electron of an element X with an atomic number of 71 enters into the orbital:

(A) 6p (B) 4f (C) 5d (D) 6s



PERIODIC TABLE

6. The correct order of the atomic radii of C,Cs,Al, and S is:

(A) C < S < Al < Cs

(B) S < C < Cs < Al

(C) S < C < Al < Cs

(D) C < S < Cs < Al

C < S < Al < Cs

Al P S

→ size ↓

PERIODIC TABLE

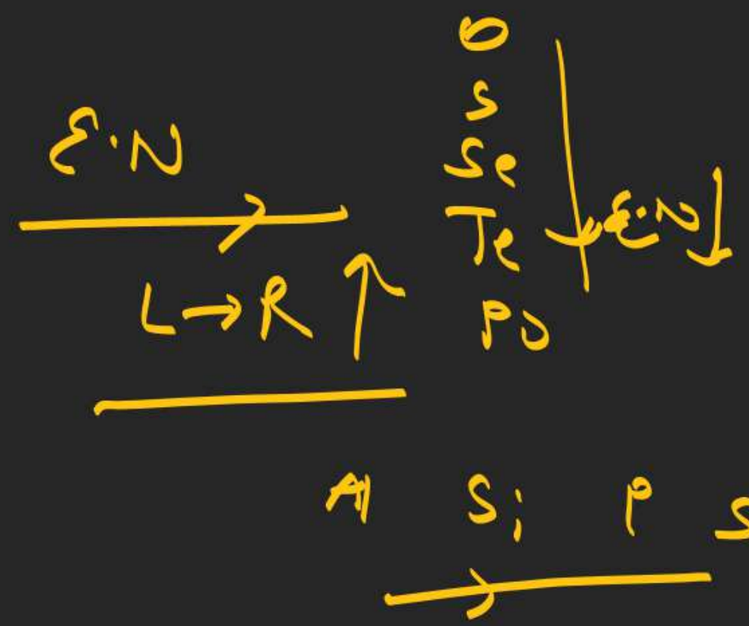
7. The correct option with respect to the Pauling electronegativity value of the elements is:

(A) Te > Se

(B) Ga < Ge

(C) Si < Al

(D) P < S



PERIODIC TABLE

8. The relative stability order of +1 oxidation state of group 13 elements is:

(A) Al < Ga < Tl < In

(B) Tl < In < Ga < Al

(C) Ga < Al < In < Tl

(D) Al < Ga < In < Tl

B
Al
Ga
In
Tl

+1 — due to inert pair effect

down the group lower oxidation state more stable

PERIODIC TABLE

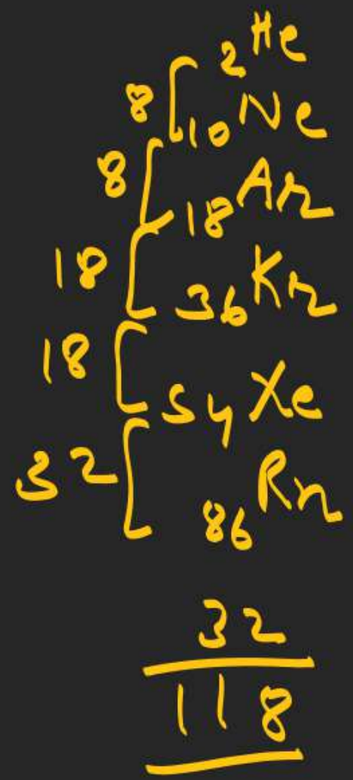
9. The element with Z=120(not yet discovered) will be :

(A) Inner-transition metal

(B) Alkaline metal

(C) Alkali metal

(D) Transition metal



PERIODIC TABLE

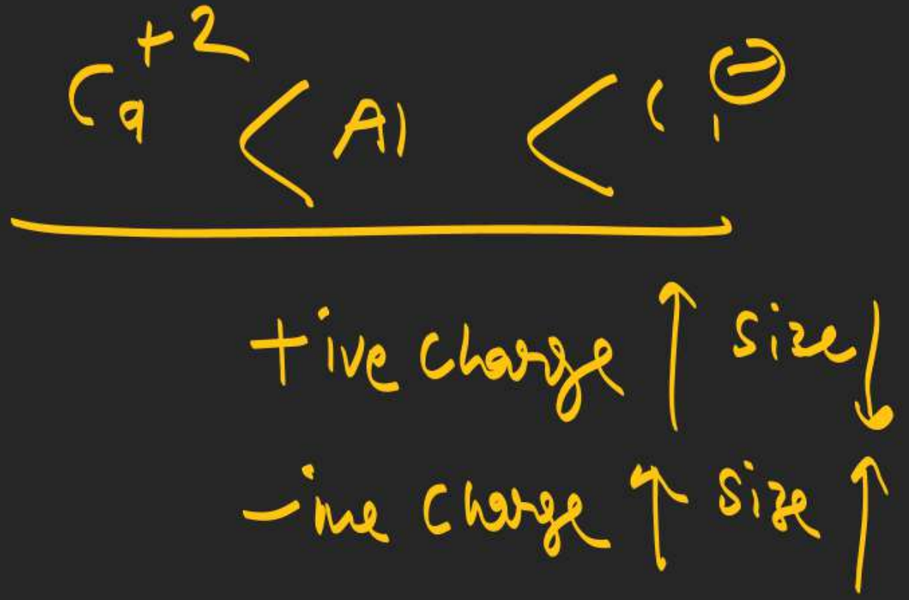
10. The size of the iso-electronic species Cl^-, Al and Ca^{2+} is affected by:

(A) azimuthal quantum number of valence shell

(B) electron-electron interaction in the outer orbitals

(C) principal quantum number of valence shell

(D) nuclear charge



PERIODIC TABLE

11. The IUPAC symbol for the element with atomic number 119 would be:

(A) uue (B) une (C) unh (D) uun

UUe
119

0 = nil
1 = un
2 = bi
3 = Tri
4
5
6
7
8
9 = enn

PERIODIC TABLE

12. The correct statements among I to III regarding group 13 element oxides are,

(I) Boron trixide is acidic.

(II) Oxides of aluminium and gallium are amphoteric.

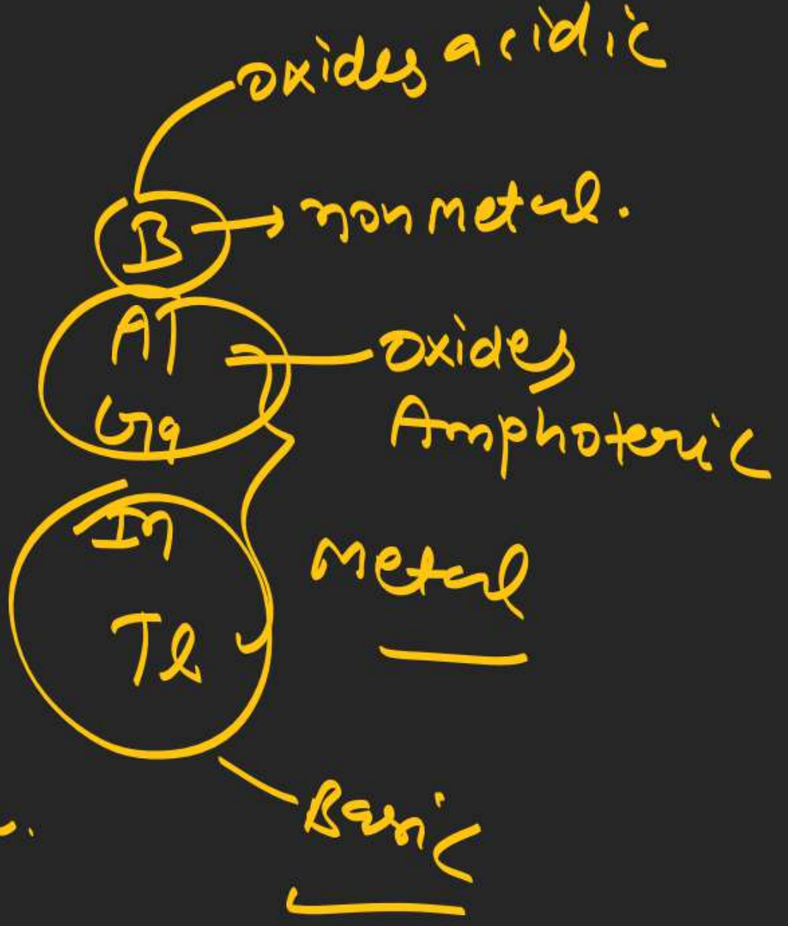
(III) Oxides of indium and thallium are basic.

(A) (I) and (II) only

(B) (I), (II) and (III)

(C) (I) and (III) only

(D) (II) and (III) only



Pb Zn Be Al Ga Sn Cr (+3/+4)

all the possible oxides and hydroxides are Amphoteric in nature.

As_2O_3 Sb_2O_3 V_2O_5