

Covalent Character of Ionic Compound and Doubt Clearing Session

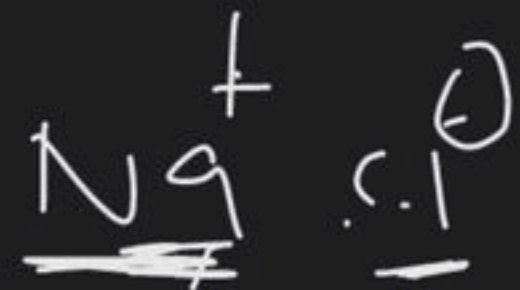
Nurture: Course on Inorganic Chemistry for Class 11



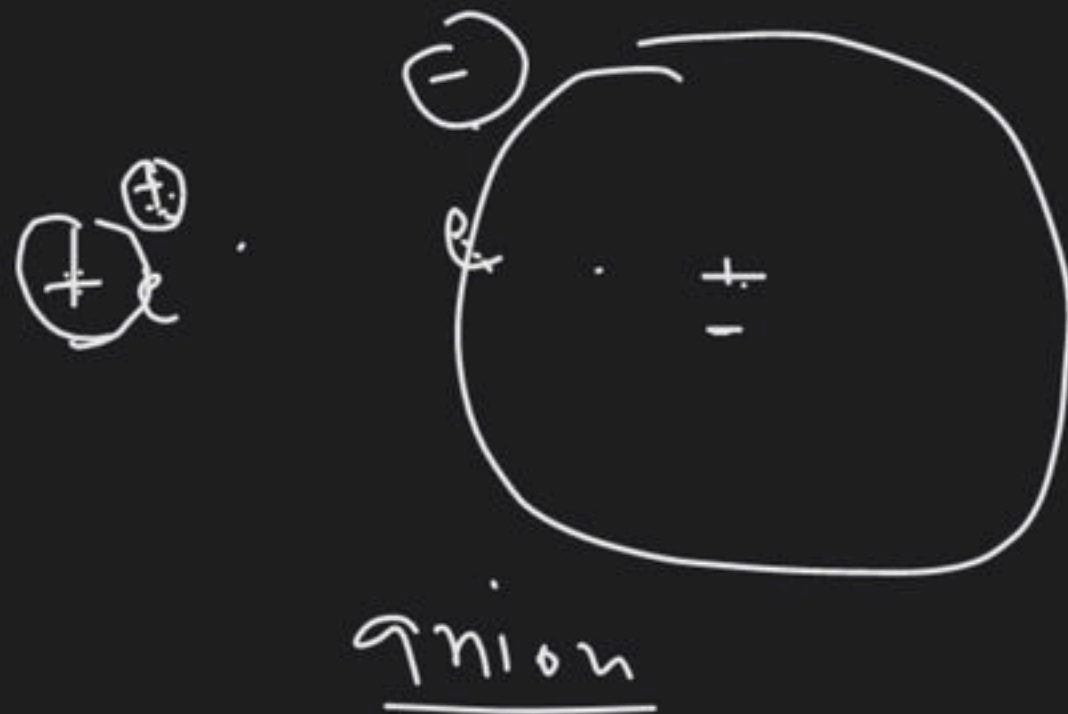
Covalent

Ionic

Fajans Rule : [Polarisation]



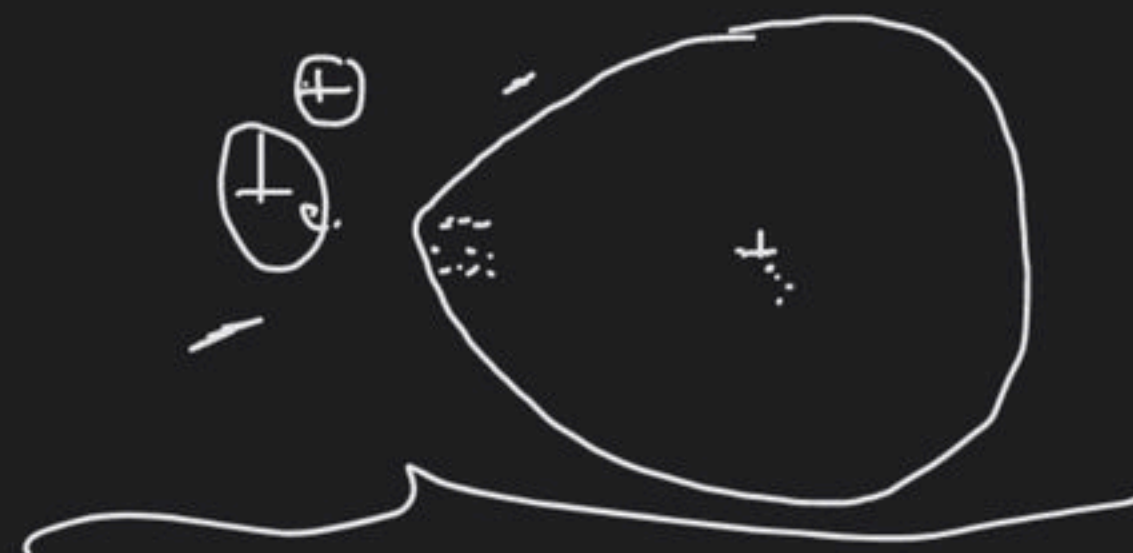
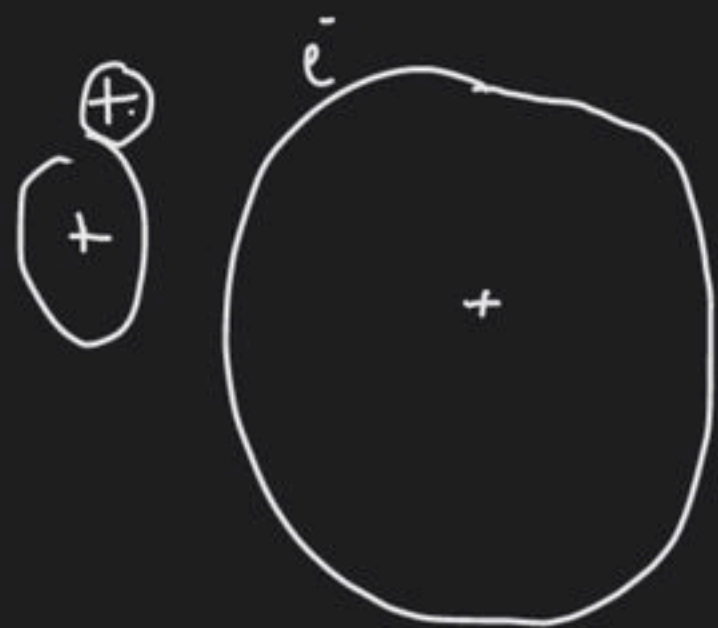
Cation



Distortion in e^- cloud of anion is called polarisation of anion

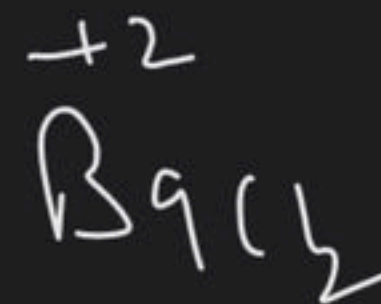
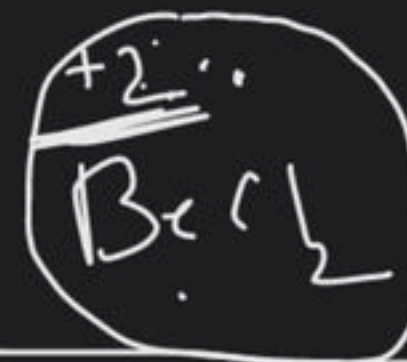
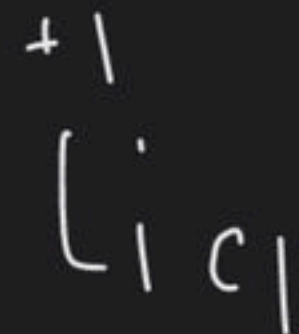
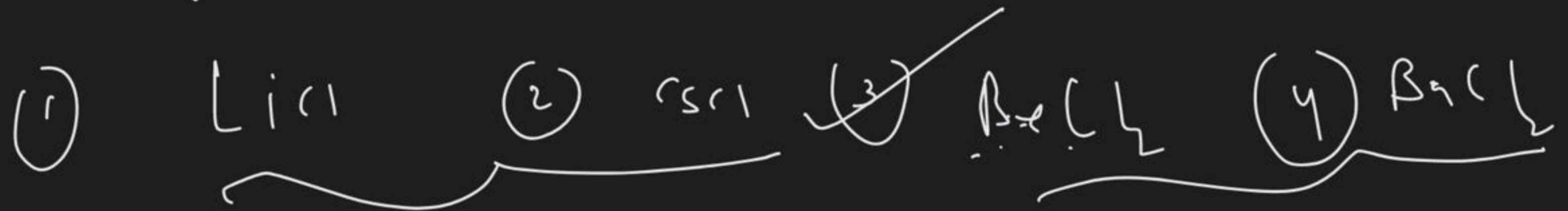
polarisation \uparrow covalent ch. \uparrow \downarrow ionic ch.

L.



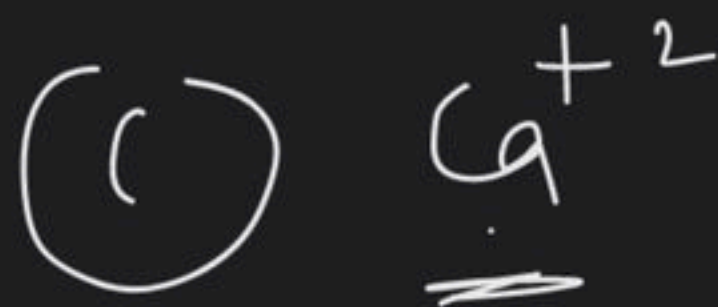
distortion

one which of the following is more
covalent



Ques

Which of the following cation
has higher ϕ value



ans

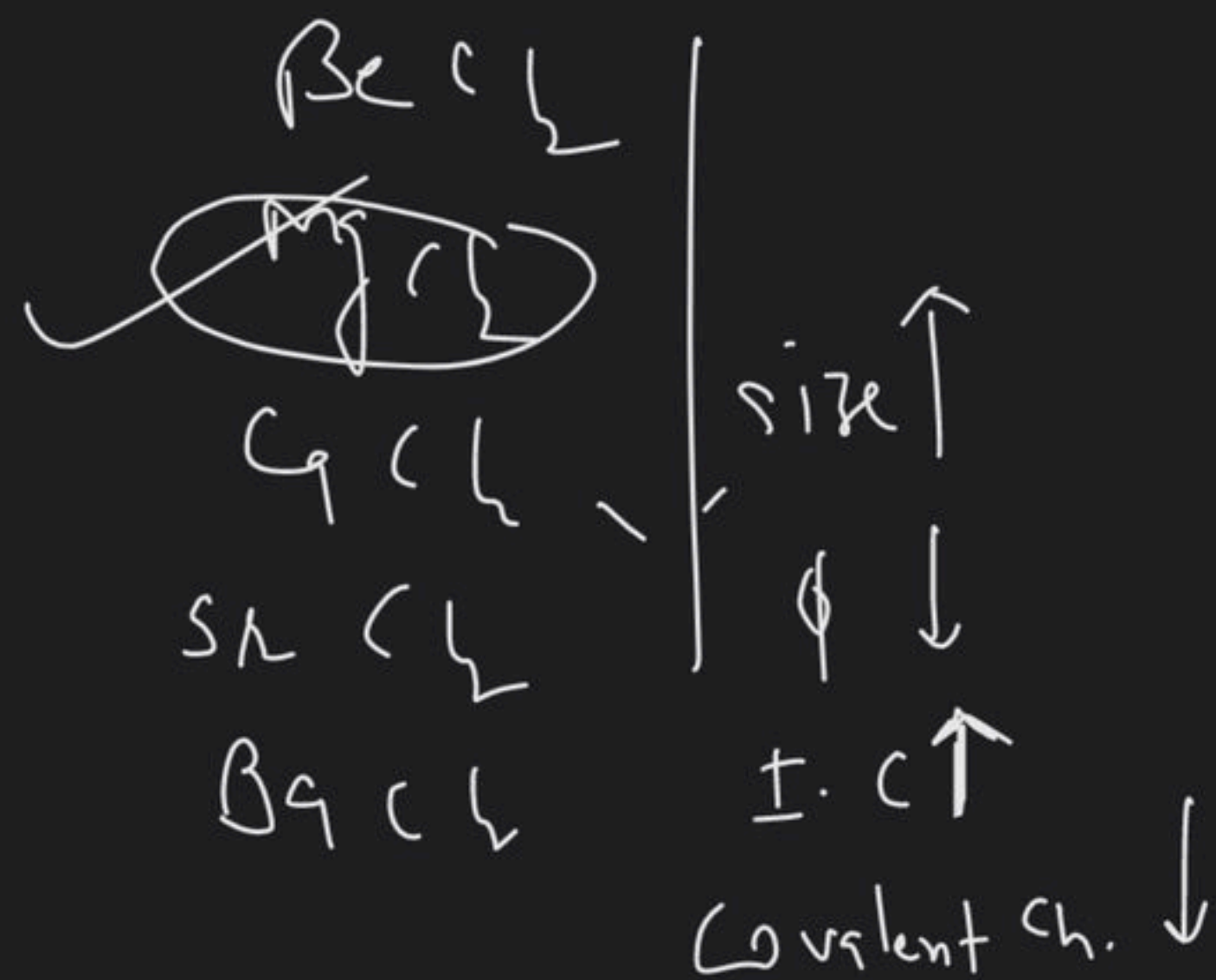
Which of the following order is correct
for covalent ch.

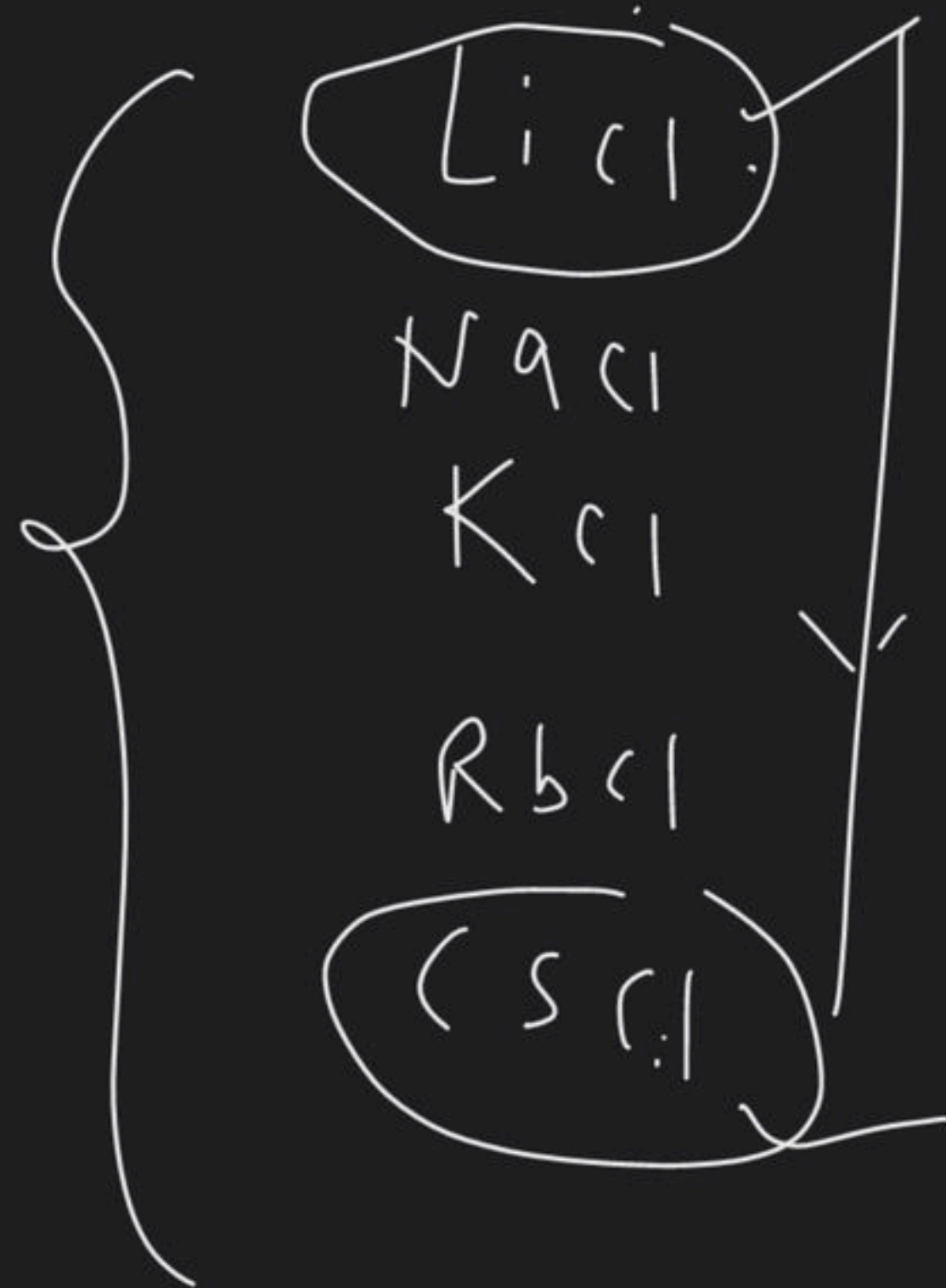
- ~~(a)~~
- $\text{LiCl} > \text{NaCl}$
- (b) $\overset{+2}{\text{MgCl}_2} > \overset{+3}{\text{AlCl}_3}$
- (c) $\overset{+2}{\text{BeCl}_2} < \overset{+2}{\text{BaCl}_2}$
- (d) all of these

and

Which of the following is more
more covalent

- (a) BaCl_2 (b) CaCl_2 (c) MgCl_2 (d) SrCl_2





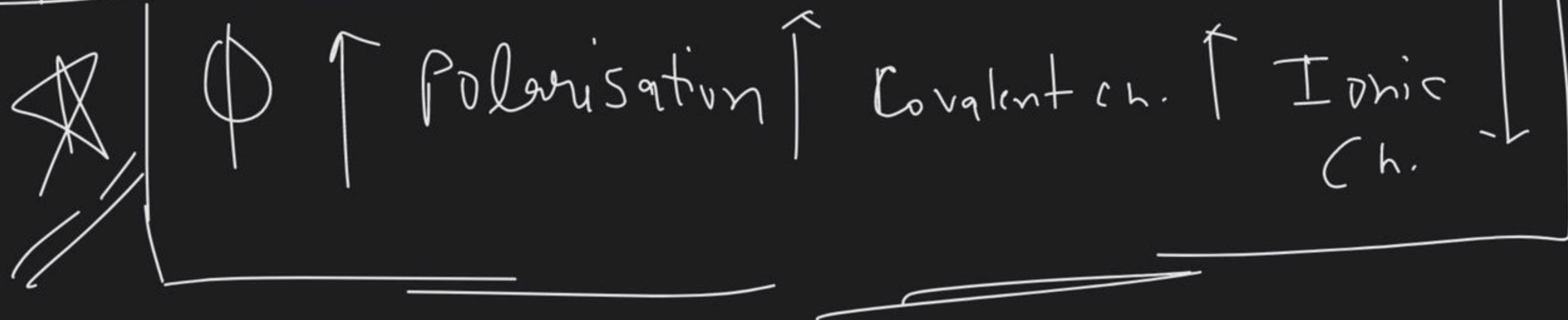
Charge density (ϕ) \downarrow because size \uparrow polarisation \downarrow
 Covalent ch. \downarrow Ionic ch. \uparrow



The tendency of cation to distort anion
is called polarizing power of cation

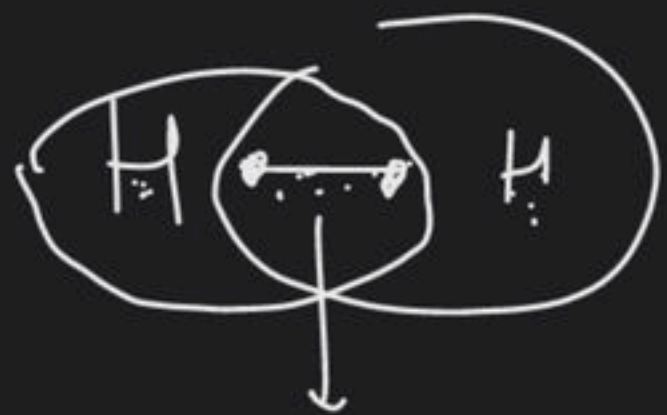
(Charge density)

$$\phi = \frac{\text{Charge}}{\text{Size}}$$



Fajan's Rule \rightarrow

isolated condition



Sharing of e^-

+

↓ $\phi = \frac{\text{charge}}{\text{size}} \uparrow$

