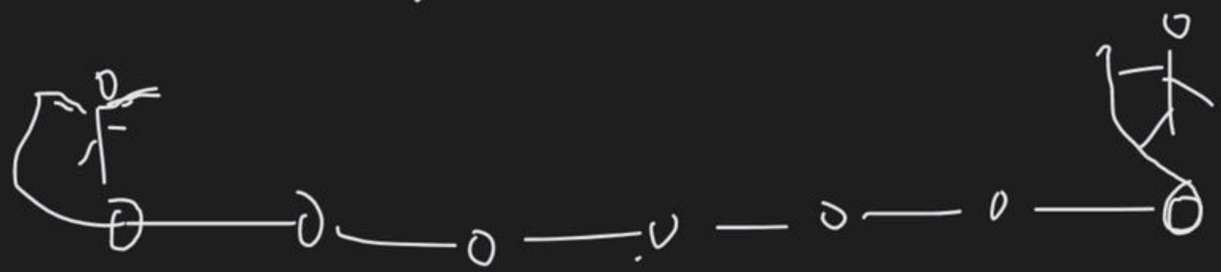
Hybridisation - I

Course on Chemical Bonding for Class XI 2023

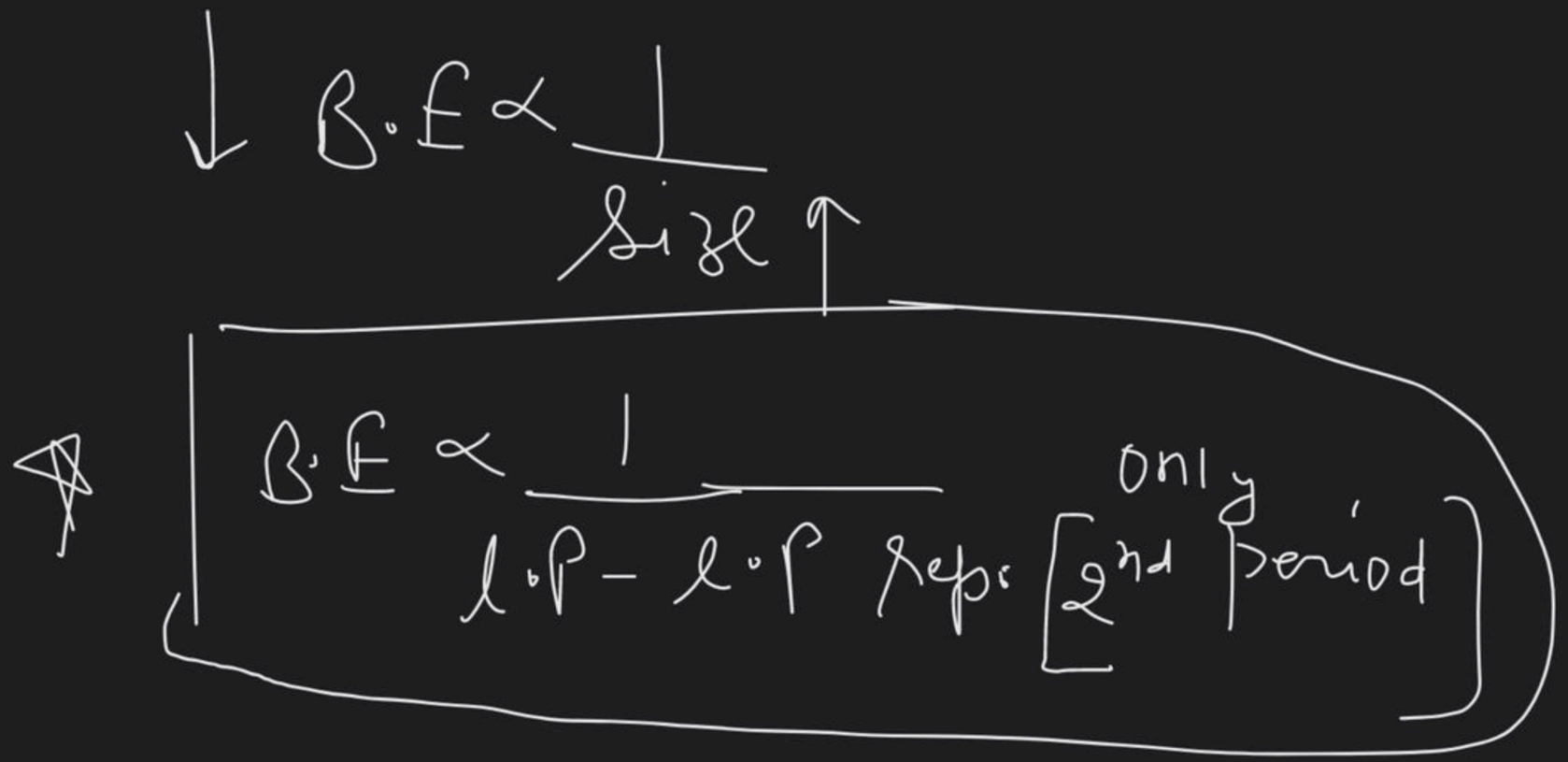
Vishal joshi • Lesson 8 • Aug 26, 2021

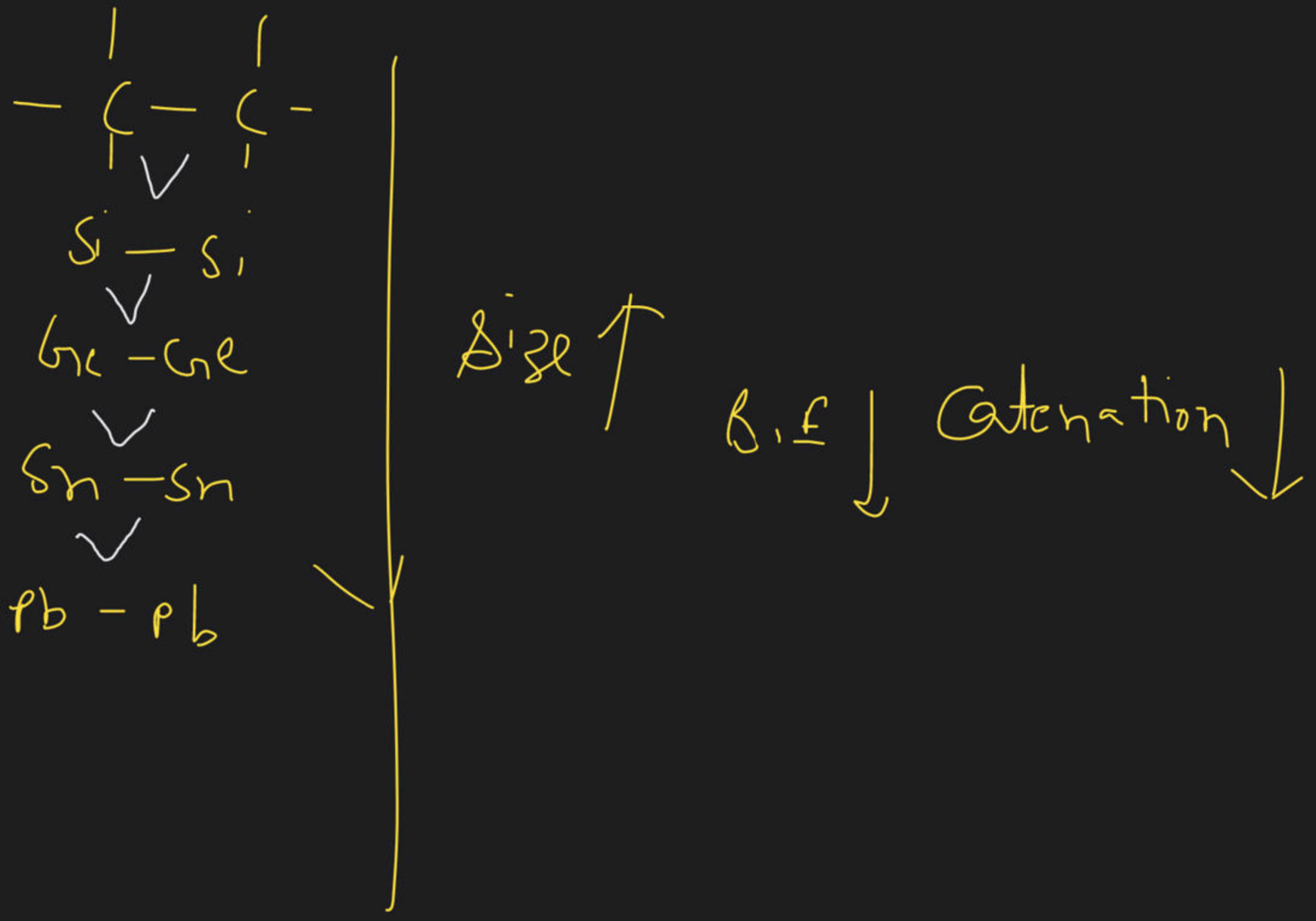
ρ_2 C_2 S_2 (vdp) exist acc. to M.O.T

Catenation = Chain formation tendency



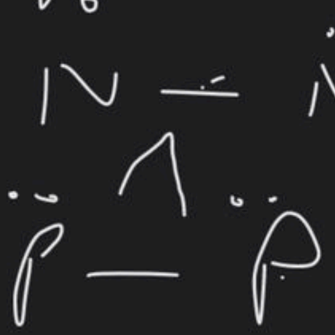
B.E ∝ Catenation prop.


↓ B.E ∝ 1/Size ↑
B.E ∝ 1/(l.p − l.p Repr.)
only
[2nd period]


C — C
Si — Si
Ge — Ge
Sn — Sn
Pb — Pb
Size ↑
B.E ↓
Catenation ↓

Q. Which of the following has higher catenation property

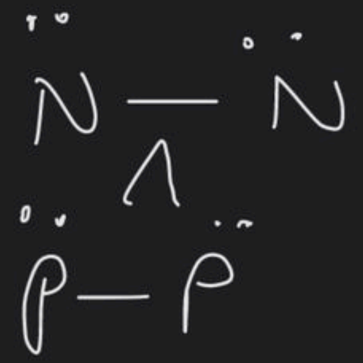
(1) N–N (2) P–P (3) both have equal (4) none



N_2

B.f $\propto \frac{1}{\text{size}}$.

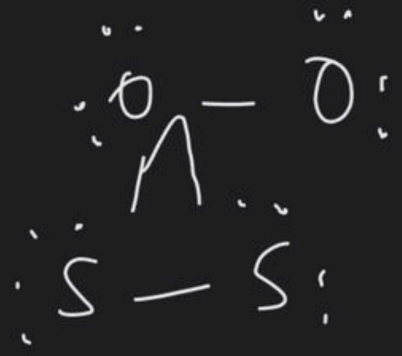
B.f $\propto \frac{1}{\ell.P - \ell.P_{rep}}$. only [2nd period]



Q.1

Which of the following has higher catenation

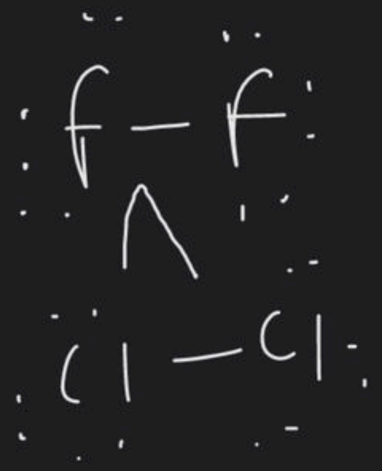
(a) O – O (b) S – S (c) both (d) none



S_8

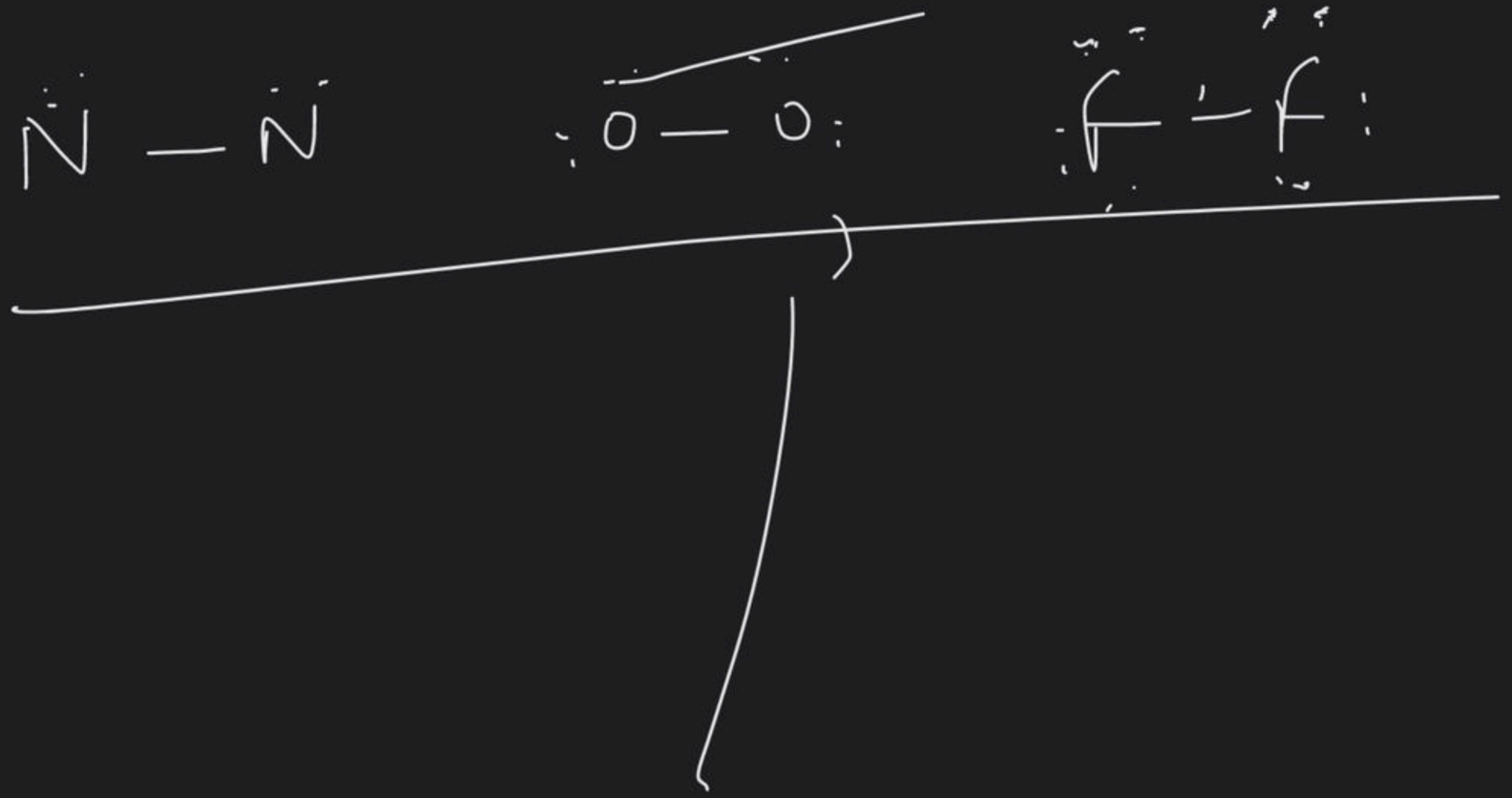
Qno Which of the following has higher catenation

(1) Cl–Cl (2) F–F (3) Br–Br (4) I–I



Q.1 Order of B.E

$$I_2 > Br_2 > F_2 > Cl_2$$



Ans

P – P S – S

B.E $\propto \frac{1}{\text{size}}$

↓ B.E $\propto \frac{1}{\text{size}}$

$\ell \cdot P = \ell \cdot P$ (2nd)

f = f → 2nd

c1 = c1

Br = Br

I = I

c1 = c1 > Br = Br > f = f

Question
from YuvrajVidh...

sir apke liye _/_

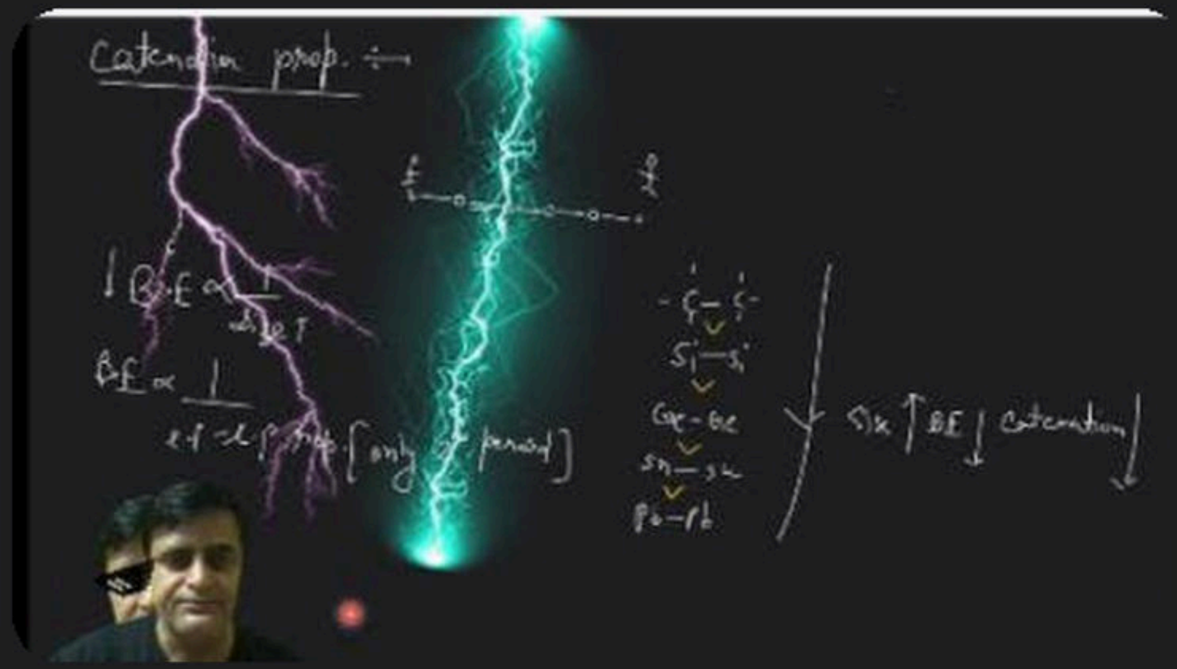
Question
from MOIN SHAIK...

Sir it just for fun

Question

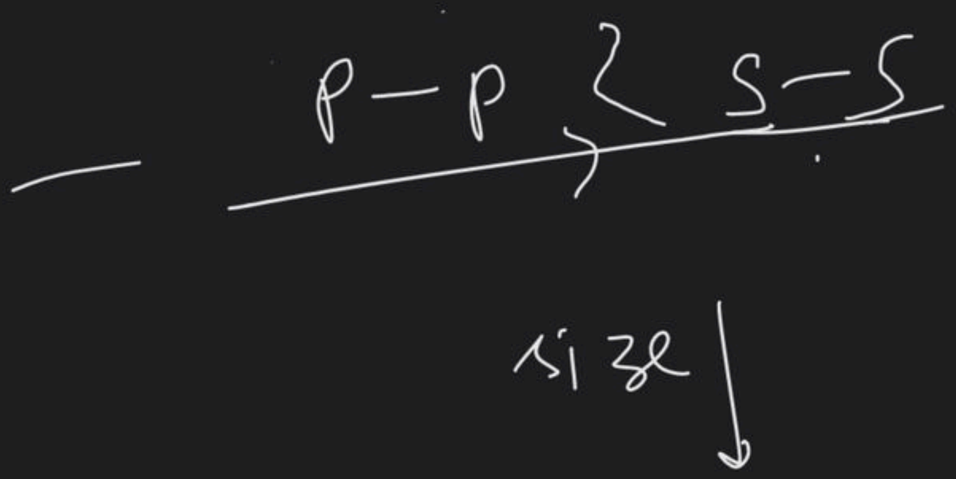
from 11 Nikshey...

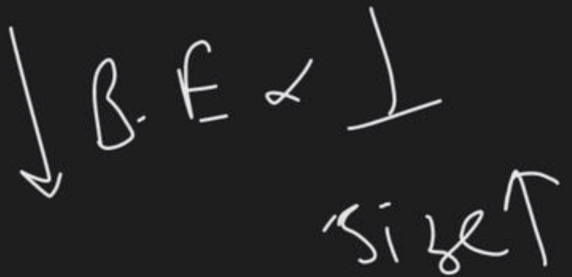
sir mil gaya



Question
from XI Priyans...

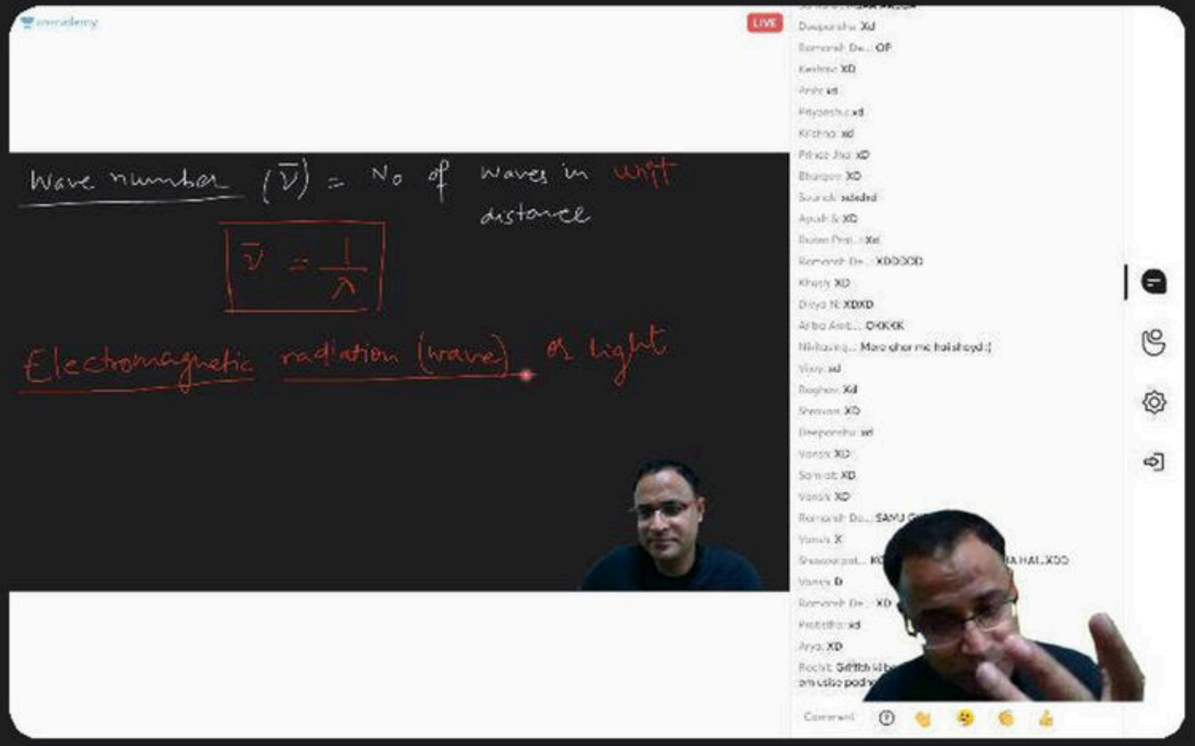
sir p-p and s-s wala samjha dijiye pls sir ki kiski catn.
property jyada hai





Question
from Anurag

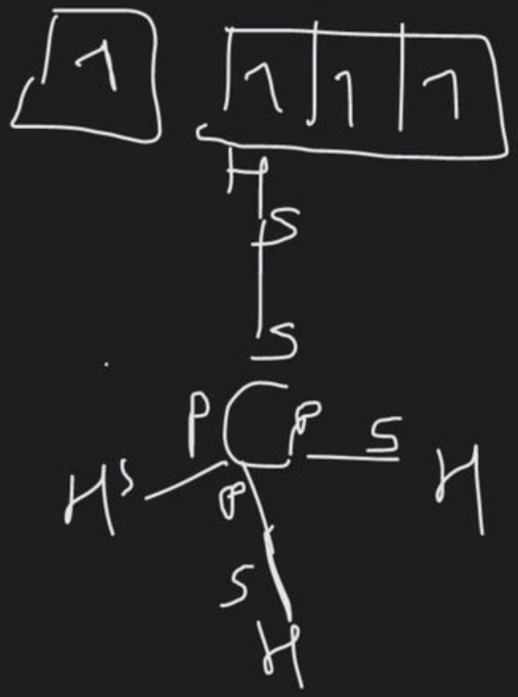
SKM SIR IN CHAT



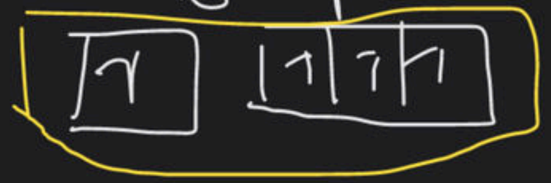
Hybridisation

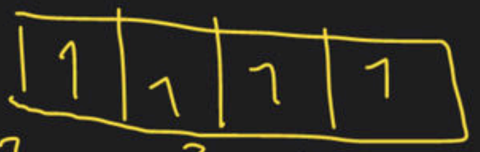
$CH_4 = 1$

$C = 1s^2 2s^2 2p^2$

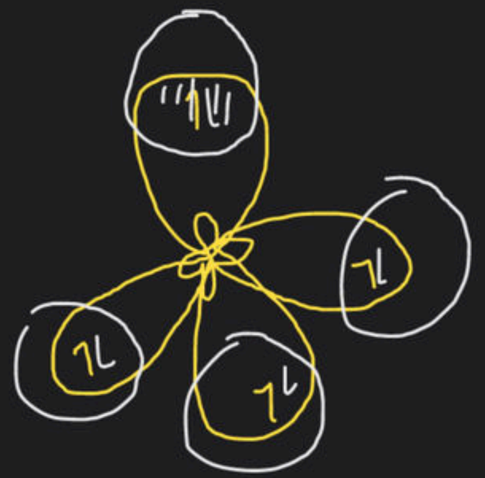


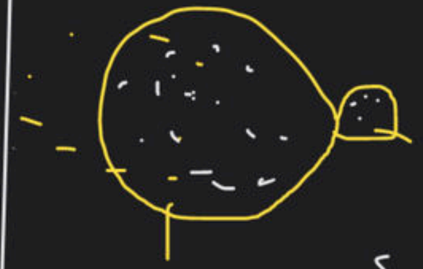
$C = 1s^2 2s^2 2p^2$





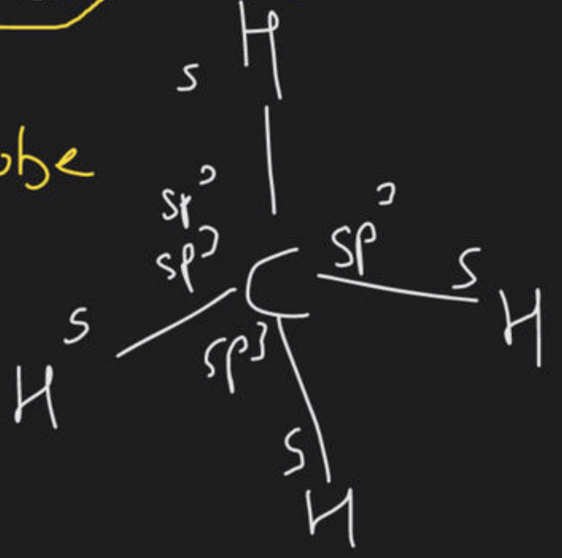
sp^3 sp^3 sp^3 sp^3





small lobe

big lobe



sp

sp^2

sp^3

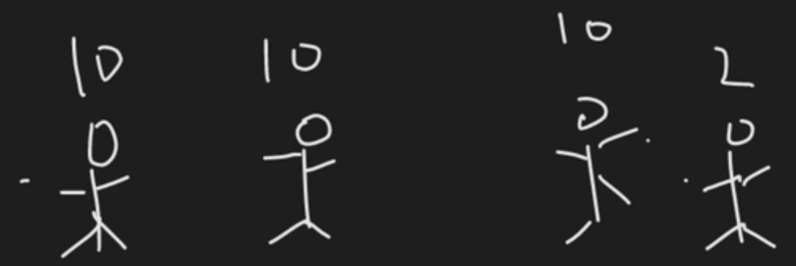
Note: all hyb. orbitals have same shape but diff size.

Hyb. :→ Intermixing of atomic orbitals having less energy diff.

→ Hyb. first followed by overlapping

?

11



$$\underbrace{10+10+10+2}$$

$$32$$

$$\frac{32}{4}=8$$