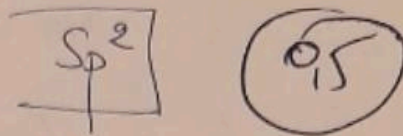


c) hybridization = $n+m-1 = 2+1-1 = 2$



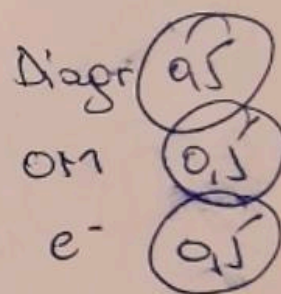
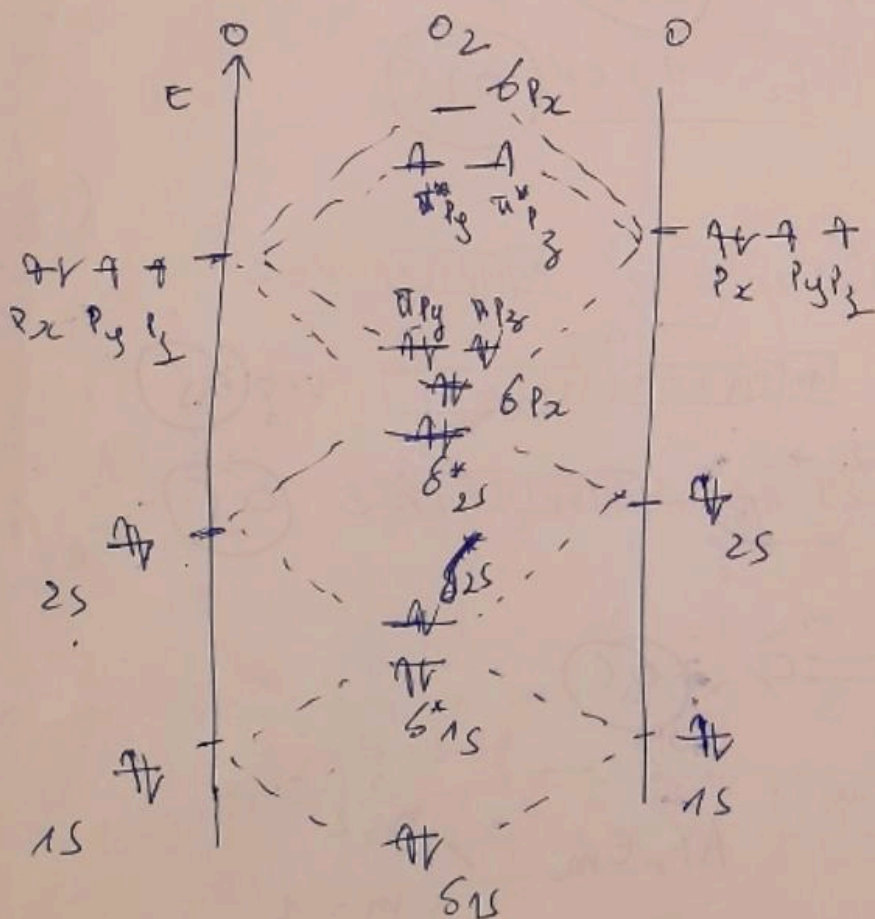
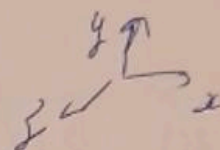
a) SO_2 is polar molecule because it is not linear (Bent)

$\alpha = 120^\circ$ $\mu \neq 0$



3) a) $O_2 \rightarrow 2+2 = 4 \rightarrow 14 \rightarrow$ without interaction sp

Diagram



b) $BO = \frac{n - n^*}{2} = \frac{10 - 6}{2} = 2$ (0.5)

c) magnetic property: Paramagnetic (single) (0.5)

d) $O_2^- \Rightarrow$ addition of e^- in anti-bond M.O. $\Rightarrow O_2^-$ less stable
bonding distance decrease.

