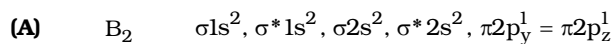


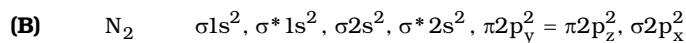
Daily Tutorial Sheet 10

JEE Advanced (Archive)

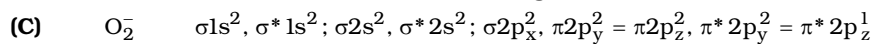
136. [A-p, r, t] [B-s, t] [C-p, q, r] [D-p, r, s]



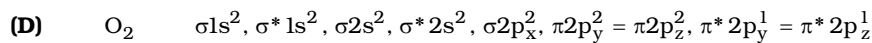
Bond order = 1 Paramagnetic



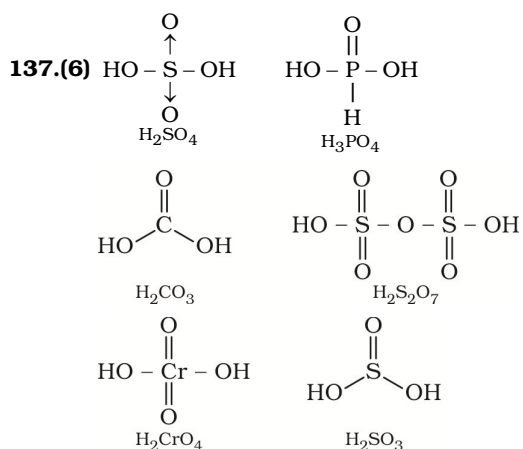
Bond order = 3 Diamagnetic



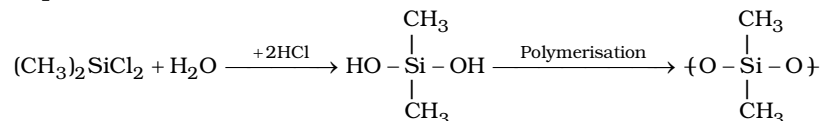
Bond order = 1.5 Paramagnetic



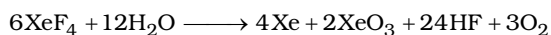
Bond order = 2 Paramagnetic



138. A-(p, s)



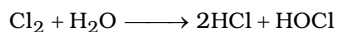
B-(p, q, r, t)



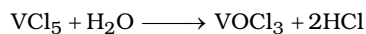
HF reacts with glass and the process is known as etching of glass.

C-(p, q)

In presence of moisture, chlorine acts as an oxidising and a bleaching agent.

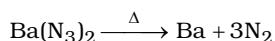


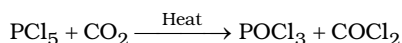
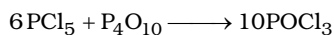
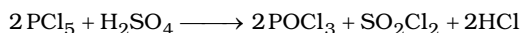
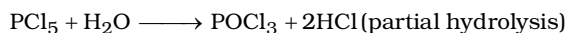
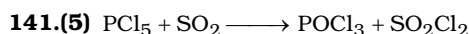
D-(p)



139.(3) Total cationic charge = Total anionic charge $2n + 6 + 24 - 36 = 0 \Rightarrow n = 3$

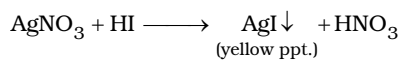
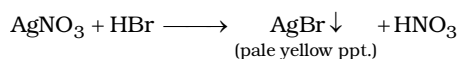
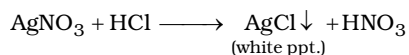
140.(D) 99% pure nitrogen is obtained by reaction of NH_3 with CuO . Extra (highly) pure nitrogen is obtained by NaN_3 or $\text{Ba}(\text{N}_3)_2$.



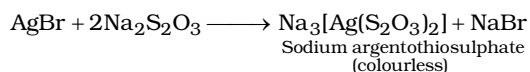


142.(ACD)

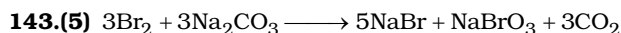
With AgNO_3 , HCl , HBr and HI give precipitate.



But HF with AgNO_3 forms AgF which is soluble in water.

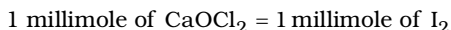
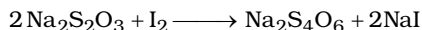
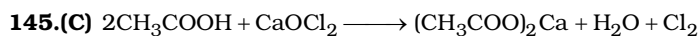
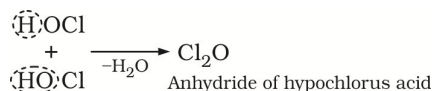


Similar reactions are observed with AgCl and AgI .



144.(A) Bleaching powder is $\text{Ca}(\text{OCl})\text{Cl}$.

It contains OCl^- ion i.e., HOCl acid.



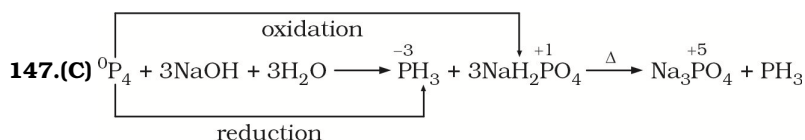
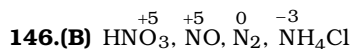
$$= \frac{1}{2} \text{ millimole of } \text{Na}_2\text{S}_2\text{O}_3$$

$$\text{Millimoles of } \text{CaOCl}_2 = \frac{1}{2} \times 0.25 \times 48 = 6$$

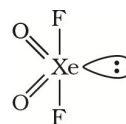
$$\text{Molarity} \times \text{Volume} = 6 \text{ millimoles}$$

$$\text{Molarity} \times 25 = 6 \text{ millimoles}$$

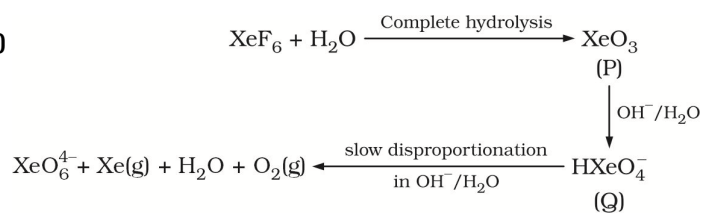
$$\text{Molarity of bleach solution} = \frac{6}{25} = 0.24 \text{ M}$$



148.(D) XeO_2F_2 has trigonal bipyramidal geometry, due to presence of lone pair of electrons on equatorial position, its shape is see-saw.



149.(C)



150.(B) Nitric acid usually acquires yellow-brown colour due to its decomposition by sunlight into NO_2 .

