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Topic:- oxiacids of chlorine acidic strength.

Oxiacids of chlorine are  $\text{HClO}$ ,  $\text{HClO}_2$ ,  $\text{HClO}_3$  and  $\text{HClO}_4$ . As we know that.

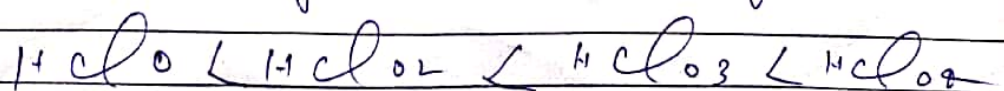
Acidic strength depends upon stability of conjugate base. Higher the stability

of conjugate base stronger will be

acid. In case of  $\text{HClO}$ ,  $\text{HClO}_2$ ,  $\text{HClO}_3$  and  $\text{HClO}_4$  their conjugate base are  $\text{ClO}^-$ ,  $\text{ClO}_2^-$ ,  $\text{ClO}_3^-$  and  $\text{ClO}_4^-$

stability increases as the no. of "O" atoms increases.

Consequently ascending order of acidic strength will be as follows.



Acidic strength of  $\text{HClO}$ ,  $\text{HBrO}$   
and  $\text{HIO}$

In the above oxyacids of halogen

all halogen. Cl, Br, and I have +1 oxidation no. but atomic no increases from Cl to Iodine.

Acidic character decreases with increase in atomic no. Accordingly

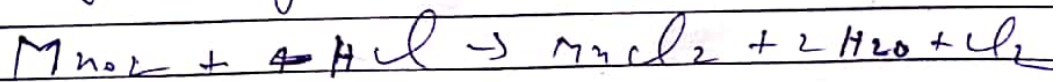
HClO is strongest acid where as

HIO is weakest acid.

$\text{HClO} > \text{HBrO} > \text{HIO}$ .

Preparation of Chlorine gas.

Cl<sub>2</sub> gas can be obtained by oxidation of HCl. using MnO<sub>2</sub> as an oxidising agent following reaction takes place



oxidation of HCl by KMnO<sub>4</sub> we get Cl<sub>2</sub> gas.

