

ASSIGNMENT NO.IV.
On Group 17 Elements
Chapter: The p block Elements

- Q.1. Give reasons for anomalous behaviour of fluorine.
- Q.2. Why is the negative electron gain enthalpy of fluorine less than that of chlorine?
- Q.3. Why are halogens considered strong oxidising agents?
- Q.4. In spite of nearly the same electronegativity, oxygen forms hydrogen bonding while chlorine does not. Explain this observation.
- Q.5. Give reasons for the following:
- a) ClF_3 exists but FCl_3 does not.
 - b) Boiling points of interhalogen compounds are little higher than that of pure halogens.
 - c) Halogens are coloured.
 - d) Fluorine forms only one oxoacid.
 - e) Fluorine does not exhibit any positive oxidation state.
 - f) Bond enthalpy of F_2 is lower than that of Cl_2 .
 - g) Halogens have the maximum negative electron gain enthalpy.
 - h) Chlorine water on standing loses its yellow colour.
 - i) ICl is more reactive than I_2 .
- Q.6. The acidic strength of oxo acids containing the same halogen follows the order:
- $\text{HClO} < \text{HClO}_2 < \text{HClO}_3 < \text{HClO}_4$.
- How can you account for this order?
- Q.7. Explain, with necessary chemical equations, the bleaching action of chlorine.
- Q.8. Give method of preparation of chlorine in the laboratory.
- Q.9. What is aqua regia and what is its use?
- Q.10. Using VSEPR theory, deduce the hybridisation and shape of BrF_3 molecule.

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