CC-5, CHEMISTRY HONS.

1. Answer all the questions [1×8=8]

i. What are leveling solvents.

ii. Define Bronsted- Lowry acid and base.

iii. What is zone of refining.

iv. Write the difference between an ore and a mineral.

v. Define inert pair effect.

vi. Give an example of covalent hydride.

vii. Give an example of pseudohalogen.

viii. Write the structure of XeF_2

2. Answer any **Eight** the questions [1.5×8=12]

i. Water is a liquid but hydrogen sulphide is a gas. Why?

ii. NF_3 is very stable gas and is inert in nature. Justify.

iii. Define catenation. Give one example of same.

iv. Write two limitations of Lewis concept.

v. Write the product of the reaction: $BF_3 + H_2O \longrightarrow$

vi. Classify hydrides on the basis of nature of bonding.

vii. Draw and write structure of ICl_3.

viii. What are polyhalides.

ix. Write the basic unit of pyro silicate.

x. Why Xe is not regarded as an inert gas.

3. Answer any **Eight** the questions [2×8=16]

i.Why $SnCl_2$ is less stable and better reducing agent than $PbCl_2$?

ii. Al^{3+} ions do not exist in solid state but exists in aqueous solutions. Explain.

iii. Why Tl+ compounds are more stable than Tl3+ compounds ?

iv. State HSAB principle. Give an example of it.

v. Based on the standard electrode potential values (E^0), which type of metal oxides can be easily reduced.

vi. Write the chemical reaction involved in purification of Nickel.

vii. Why OF4 does not exist but SF4 is a strong lewis acid.

viii. Explain 3C-2e^- bond with an example.

ix. What are interhalogen compounds. Give an example.

x. What are pseudohalogens? Give an example.

4. Answer any **Four** questions [4×6=24]

i. What are silicones ? Give the preparation of linear and cross-linked silicones. Also write the application of Silicones.

ii. What are phosphazenes ? Give the preparation and structure of triphosphazene.

iii. Describe the preparation, properties, uses and structure of boron nitride.

iv. Write preparation, structure and uses of orthoboric acid.

v. Describe relative stability of different oxidation states of s and p- block elements.

Vi. Explain the anomalies in elements of first and second row in the periodic table.