

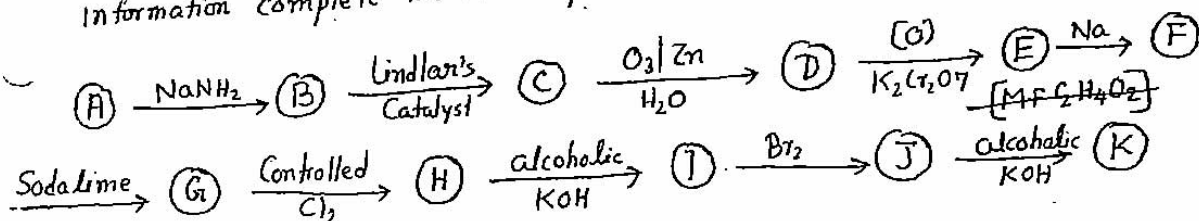
FINAL EXAMINATION [2013]
CLASS XI [CHEMISTRY]

[TIME - 3hrs]

Section A

- (A) ① What is hydrolith. Give its reaction with water (10)
 ② Explain the principle involved in the preparation of washing soda
 ③ Give the reaction for the preparation of Plaster of Paris. Why is it important to maintain the temperature
 ④ Explain why s block elements impart colour to the flame
 ⑤ Explain what is photoelectric effect.
- (B) ① Explain in details the steps involved in the extraction of Mg by Dow's process. (10)
 ② What are the conditions necessary for a compound to show optical isomerism
 ③ Write short notes on Geometrical Isomerism.
 ④ Write down the no of isomerism and IUPAC name of n-heptane
 ⑤ Alkali metals when dissolved in liquid NH_3 imparts Blue in color and also becomes good conductor

(C) An organic compound (A) is used in oxy-acetylene flame with this information complete the road map given below. (10)



(D) Solve the following conversions (10)

- ① Ethane to Glyoxal.
- ② Acetylene to acetone
- ③ Ethane to methane

Write short notes on any ②

- ① Corey House Synthesis
- ② Hydroboration reaction
- ③ Wurtz reaction

Section B

① (a) Write the Lewis dot structure of the following species

⑩

(i) Al_2Cl_6 (ii) H_2SO_4

(b) Why H_2O is liquid but H_2S is a gas at room temperature.

(c) ClF_3 exists while FCl_3 does not.

(d) Electronegativity of Br is less than that of F yet BF_3 is weaker Lewis acid as compared to BBr_3 . Explain.

(e) Why mobility of H^+ ions in ice is greater as compared to liquid water?

② (a) Give points of similarities and difference between V.B.T and M.O.T. ③

(b) Write down the hybridized structure of the following compound. ⑤

NH_3 , H_2O , C_2H_2 , XeF_2 , PCl_5

(c) Using M.O.T prove that O_2 is a paramagnetic substance. ②

③ (a) 10 cc of H_2O_2 solution when reacted with KI solution produced 0.5 g of Iodine. Calculate the percentage of purity of H_2O_2 [I = 127] ②

(b) Calculate the weight of lime (CaO) that can be prepared by heating 200 kg of limestone [$CaCO_3$] which is 95% pure. ②

(c) State and explain Law of mass action and find out a relationship between K_p , K_c and K_z . ②

(d) Derive a formula to calculate the normality of an acid of specific gravity d containing $x\%$ by wt. The equivalent wt of the acid is E . ②

(e) (i) Define solubility and solubility product, ②
(ii) Explain Buffer action in acidic and Basic System.