CHEMISTRY **(Intermediate Part-II , Class 12th) 422** **Paper II** **(Group – I)**

Time: 2:40 Hours **SUBJECTIVE** GUJ-41-22 **Marks: 68**

Note: Section I is compulsory. Attempt any THREE (3) questions from Section II.

(SECTION – I)

2. Write short answers to any EIGHT questions. **(2 x 8 = 16)**

i. Why oxidation state of noble gases is usually zero?

ii. Why metallic character increases from top to bottom in group?

iii. Define alkali and alkaline earth metals.

iv. Why is the aqueous solution of Na_2CO_3 alkaline in nature?

v. Write down four uses of silicones.

vi. Why CO_2 is acidic in character?

vii. How does nitrogen differ from other elements of its group?

viii. Give methods of preparation of PCl_3.

ix. How chromate ions are converted into dichromate ions?

x. Define ligand. Give one example.

xi. Discuss ammonia as a fertilizer.

xii. Define cement, Write down names of its important raw materials.

3. Write short answers to any EIGHT questions. **(2 x 8 = 16)**

i. Why HF is weak acid than that of HI?

ii. Write down any four uses of bleaching powder.

iii. Define cis-trans isomerism. Give one example.

iv. How wood can be converted into anthracite?

v. How will you convert i) Ethene into ethane ii) Ethyne into ethene

vi. How does propyne react with the following reagents?

i) $AgNO_3 / NH_4OH$ ii) Cu_2Cl_2 / NH_4OH

vii. Why alkenes are more reactive than alkanes?

viii. Write down any two differences between E_1 and E_2 reactions.

ix. What is Grignard reagent? How it can be prepared?

x. Define proteins. Give any two importance of proteins.

xi. Define iodine number and acid number.

xii. Write down any four importance of lipids.

4. Write short answers to any SIX questions. **(2 x 6 = 12)**

i. Give the mechanism of sulphonation of benzene.

ii. Give two methods for the preparation of benzene in laboratory.

iii. How phenol reacts with dil. and conc.HNO_3?

iv. Dehydration of ethyl alcohol occur under different conditions. Give reactions.

(Turn Over)

v. Give any four uses of formaldehyde.

vi. How would you convert acetic acid into i) acetyl chloride ii) acetic anhydride

vii. What are essential and non-essential amino acids?

viii. What are primary pollutants? Give examples.

ix. Give any four causes of water pollution.

(SECTION - II)

Note: Attempt any THREE (3) questions from Section II.

5. (a) Define the oxides. Classify the oxides on the basis of their acidic and basic character. **(4)**

(b) Discuss briefly triplumbic tetraoxide (Pb_3O_4) and lead dioxide (PbO_2). **2+2 (4)**

6. (a) Write down any eight points regarding the peculiar behaviour of lithium. **(4)**

(b) Explain the electrochemical theory of corrosion. **(4)**

7. (a) What is orbital hybridization? Explain SP^3 hybridization with example. **(4)**

(b) Define nucleophillic substitution reaction and discuss the S_N1 reaction in detail. **(4)**

8. (a) Discuss the Kolbe's electrolysis method for the preparation of alkene. (ethene) **(4)**

(b) Explain the mechanism of cannizzaro's reaction with one example. **(4)**

9. (a) How will you prepare benzene from **1x4 (4)**

i) cyclohexane ii) n-hexane

iii) phenol iv) acetylene

(b) Define alcohols. How different types of alcohols are differentiated by Lucas test. **1+3 (4)**