Section B

6. (a) What are Carbides ? How do CaC_2 and Al_4C_3 differ ? **2**

(b) Write a note on pyrosilicates and chain silicates. **2**

(c) Give four uses of silicone polymers. **2**

7. (a) Discuss the bonding in B_2H_6. **2**

(b) Why BF_3 is less acidic than BCl_3. **2**

(c) Name any *four* oxoacids of phosphorous and draw their structures. **2**

8. (a) Discuss about the three allotropic forms of phosphorous. **2**

(b) Why NO_2 readily dimerise while nitric oxide does not ? **2**

(c) Write about the important uses of Fluorocarbons. **2**

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52063

B. Sc. EXAMINATION, 2026

(Second Semester)

(Re-appear Only)

CHEMISTRY

Paper–IV, CH-104

Inorganic Chemistry

Time : 3 *Hours*] [*Maximum Marks :* 32

Before answering the question-paper, candidates must ensure that they have been supplied with correct and complete question-paper. No complaint, in this regard will be entertained after the examination.

Note : Attempt *Five* questions in all. Q. No. **1** is compulsory. Attempt *four* questions from Section A and Section B, selecting *two* questions from each Section.

(Compulsory Question)

1. (a) What is the other name given to dipole-dipole forces ?

(b) What is Doping ?

(c) Why do alkali metals act as strong reducing agent ?

(d) Which hybridization is involved in XeF_2 ?

(e) Write down the formula of Caro's acid.

(f) Name other allotropic form of Hydrogen.

(g) Which factor is responsible for non-metallic character of halogen ?

(h) Name other allotropic form of oxygen.

1×8=8

Section A

2. (a) Explain the difference between inter-molecular hydrogen bonding and intra-molecular hydrogen bonding. **2**

(b) Why acetic acid exists in dimeric form ? **2**

(c) What is Semiconductor ? What is effect of temperature on the conductivity of semiconductor ? **2**

3. (a) Explain why Lithium ion is best reducing agent in aqueous solution. **2**

(b) NaOH is a stronger base than $Ba(OH)_2$. Explain. **2**

(c) What are crown ethers and cryptates ? Write their unique characteristics. **2**

4. (a) What is the hybridization of xenon in XeF_6, $XeOF_2$ and XeF_2. Draw their structures. **3**

(b) Discuss the role of sodium and potassium in biosystems. **3**

5. (a) What is the cause of low reactivity of noble gases ? **2**

(b) In what manner lithium shows anomolous behavior with respect to alkali metals. **2**

(c) Mention the factors responsible for late discovery of compounds of noble gases. **2**

9. (a) Arrange the following acids in decreasing order of their acidic strength :

$HClO$, $HClO_2$, $HClO_3$ and $HClO_4$. **2**

(b) Why I_2 dissolves in KI solution ? **2**

(c) Give three methods of preparation of interhalogens. **2**

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