

Name. _____		Printed Pages:01		
Student Admn. No.: _____				
<b>School of Basic Sciences</b> <b>Summer Term Examination – July - August 2024</b> <b>[Programme: B.Sc. (H)Chemistry/Research in Chemistry] [Semester: II] [Batch: 1]</b>				
Course Title: Chemistry of Group Elements		Max Marks: 100		
Course Code: C1UB203B		Time: 3 Hrs.		
<b>Instructions:</b>	1. All questions are compulsory. 2. Assume missing data suitably, if any.			
		K Level	COs	Marks
<b>SECTION-A (15 Marks)</b>		<b>5 Marks each</b>		
1.	Examine the various types of Lewis acids and bases	K2	CO2	5
2.	Summarize the van Arkel-de Boer process.	K2	CO1	5
3.	Examine the characteristic features of diborane.	K2	CO3	5
<b>SECTION-B (40 Marks)</b>		<b>10 Marks each</b>		
4.	What are silicates? Draw the structure of four different type of silicates and give the name and formula of one example of each type.	K2	CO3	10
5.	Examine the oxoacids of nitrogen and phosphorus.	K3	CO4	10
6.	Predict the molecular structures of interhalogens on the basis of VSEPR theory.	K4	CO4	10
7.	Explain why does the Be different from other alkaline earth metal.	K4	CO3	10
<b>SECTION-C (45 Marks)</b>		<b>15 Marks each</b>		
8.	Justify the role of Ellingham diagram in temperature dependent usage of reducing nature of Carbon and Carbon monoxide.	K4	CO1	15
9.	Justify the preparation and properties of XeF <sub>2</sub> , XeF <sub>4</sub> and XeF <sub>6</sub>	K5	CO4	15
10	Compare the hard acid and hard base out of Lithium, Sodium and Cesium ion, along with the concept of HSAB principle with examples	K5	CO2	15