

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) Physics/Zoology/Biomed. Sc./Forensic Sci ] [Semester: I ) [Batch:                    ]</b>				
Course Title: Fundamentals Of Chemistry		Max Marks: 100		
Course Code: C1UB120B/B020101T		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.	What is the geometry of XeF <sub>4</sub> as per VSEPR Theory?	K1	CO1	5
2.	Explain which is more ionic among NaCl or NaI and why?	K2	CO2	5
3.	What is more acidic in nature, phenol or methanol, and why?	K1	CO3	5
<b>SECTION-B (40 Marks)</b>		<b>10 Marks each</b>		
4.	Explain which has the higher boiling liquid, o-nitrophenol or p-nitrophenol, and why?	K2	CO1	10
5.	Identify the molecular orbital diagram of O <sub>2</sub> . Calculate the bond order of O <sub>2</sub> , and O <sub>2</sub> <sup>+</sup> .	K3	CO2	10
6.	Analyze the Z <sub>eff</sub> experienced by valence electron in O and K using Slater's rule.	K4	CO2	10
7.	Examine the number of chiral carbons in 2-bromo-3-choloro butane and draw the structures of possible stereoisomers.	K4	CO3	10
<b>SECTION-C (45 Marks)</b>		<b>15 Marks each</b>		
8.	Identify the type of mesomeric effect in chlorobenzene and nitrobenzene with structures.	K3	CO3	15
9.	Determine the primary, secondary and tertiary carbanion, which is more stable and why?	K5	CO4	15
10	Discuss about the Enantiomers and Diastereomers. Draw all the possible isomers of 3-Bromo-2-butanol and distinguish the diastereomers.	K6	CO4	15

<b>Course outcomes:</b> Students will be able to		
COs	K level	
CO1		
CO2		
CO3		
CO4		

- Note: 1. Q1 to Q4 from K1/K2.**  
**2. Q5 to Q8 from K3/K4.**  
**3. Q9 to Q10 from highest knowledge level.**