SHRI RAMSWAROOP MEMORIAL UNIVERSITY

End Semester Examination (2021-22)-Odd Semester

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Course Name: Inorg	janic	Ch	emi	stry	'-								Cod	e: M(CY1	001	
Time: 02 Hours													Max	Mar	ks: (60	
University Dell No											1						

University Roll No.											
					(To	be f	illed	by t	the S	Stud	ent)

Note: Please read instructions carefully:

- a) The question paper has 03 sections and it is compulsory to attempt all sections.
- b) All questions of Section A are compulsory; questions in Section B and C contain choice.

	ion A: Very Short Answer type Questions mpt all the questions.	BL	CLO	Marks (10)
1.	Define Classes of group.	BL1	CLO1	02
2.	State improper axis of rotation.	BL1	CLO1	02
3.	What is the matrix representation for centre of inversion?	BL1	CLO2	02
4.	What is the point group of XeF ₄ molecule?	BL1	CLO2	02
5.	What is the point group of HCN molecule?			02
	ion B: Short Answer Type Questions mpt any 03 out of 05 questions.	BL	CLO	Marks (30)
1.	Discuss the property of group.	BL2	CLO1	10
2.	Explain the general method for multiplication of matrix with an example.	BL2	CLO3	10
3.	Define the group multiplication table for C _{3v} point group.	BL2	CLO3	10
4.	Draw the molecular orbital diagram of tetrahedral complex containing only sigma-bond.	BL2	CLO4	10
5.	Show that the all symmetry elements in I ₃ - molecule.	BL2	CLO2	10
	ion C: Long Answer Type Questions/Case Study mpt any 01 out of 03 questions.	BL	CLO	Marks (20)
1.	Derive the wave function for sp hybrid orbital.	BL3	CLO4	20
2.	Construct and discuss the character table for $C_{2\nu}$ point group.	BL3	CLO2	20
3.	Describe the rotational, vibrational and Raman active mode in NH ₃ molecule.	BL3	CLO5	20

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