महाराणा प्रताप पी.जी. कालेज, जंगल धूसड़, गोरखपुर

Class : M.Sc. I[st] Sem.		LESSION PLAN : 2021-22			Subject : Chemistry
DATE	LECTURE	TEACHER'S NAME	PAPER	CHAPTER	TOPIC
02.08.2021	1	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry Elements
	1	Dr. R. Sahay	II	Fundamental Concepts	Introduction ,Operators
03.08.2021	2	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry Elements
	2	Dr. R. Sahay	II	Fundamental Concepts	Algebra of Operators , Commut, Linear and Vector operators
04.08.2021	3	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry operation
	3	Dr. R. Sahay	II	Fundamental Concepts	Laplacian and Hermition operators
05.08.2021	1	Abhinav Tripathi	III	Stereochemistry of bonding in main group component	dπ pπ bonds
	1	Priyanka Mishra	IV	Elimination reaction	E1 reactions
06.08.2021	2	AbhinavTripathi	III	Stereochemistry of bonding in main group component	Bents rule
	2	Priyanka Mishra	IV	Elimination reaction	E1 mechanism
07.08.2021		AbhinavTripathi	CT		
	3	Priyanka Mishra	IV	Elimination reaction	E2 reactions
09.08.2021	4	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry operation with special reference to water molecules
	4	Dr. R. Sahay	II	Fundamental Concepts	Laplacian operators
10.08.2021	5	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry operation with special reference to ethane molecules
	5	Dr. R. Sahay	II	Fundamental Concepts	Concept of normalisation and orthoganality
11.08.2021	6	Sanjay Jaiswal	I	Molecular Symmetry	Classification Of Molecules / Ion Based On Their Symmetry Property
	6	Dr. R. Sahay	II	Fundamental Concepts	Concept of normalisation and orthoganality
12.08.2021	3	AbhinavTripathi	III	Stereochemistry of bonding in main group component	Energetics of Hybridisation
	4	Dr. S. K. Vernwal	IV	Substitution reaction	General view, Arenium ion mechanism(ArSE)
14.08.2021	4	AbhinavTripathi	III	Stereochemistry of bonding in main group	Energetics of Hybridisation

				component	
	5	Priyanka Mishra	IV	Elimination reaction	E2 mechanism
16.08.2021	5	AbhinavTripathi	III	Stereochemistry of bonding in main group component	Polyether complexes of alakali metals
		Priyanka Mishra	CT		
17.08.2021	7	Sanjay Jaiswal	I	Molecular Symmetry	Classification Of Molecules / Ion Based On Their Symmetry Property
	7	Dr. R. Sahay	II	Fundamental Concepts	Postulate of quantum mechanics
18.08.2021	8	Sanjay Jaiswal	I	Molecular Symmetry	Classification Of Molecules / Ion Based On Their Symmetry Property
	8	Dr. R. Sahay	II	Fundamental Concepts	Schrodinger wave equation
20.08.2021	9	Sanjay Jaiswal	I	Molecular Symmetry	Derivation Of Matrices for rotation , reflection
	9	Dr. R. Sahay	II	Fundamental Concepts	Particle in one dimensional box
21.08.2021	6	AbhinavTripathi	III	Preparation , structure and bonding	Polyether complexes of alakali metals
	6	Priyanka Mishra	IV	Elimination reaction	E1CB reaction
23.08.2021	7	AbhinavTripathi	III	Preparation , structure and bonding	Polyether complexes of alakali metals

	7	Priyanka Mishra	IV	Elimination reaction	E1CB mechanism
24.08.2021	8	AbhinavTripathi	III	Preparation , structure and bonding	Polyether complexes of alakaline metals
		Priyanka Mishra	ME		
25.08.2021	10	Sanjay Jaiswal	I	Molecular Symmetry	Derivation Of Matrices for rotation-reflection, inversion operation
	10	Dr. R. Sahay	II	Fundamental Concepts	Particle in one dimensional box
26.08.2021	11	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry point group applied to all type of molecules Cnh , Dnh ,Cnv
	11	Dr. R. Sahay	II	Fundamental Concepts	Particle in one dimensional box
27.08.2021	12	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry point group applied to all type of molecules Td, Oh, and Ih
	12	Dr. R. Sahay	II	Quantum Mechanical treatment	One dimensional harmonic oscillator
31.08.2021	9	AbhinavTripathi	III	Preparation , structure and bonding	Polyether complexes of alakaline metals
	8	Dr. S. K. Vernwal	IV	Substitution reaction	Mechanism of Nitration and Sulphonation
01.09.2021	10	AbhinavTripathi	III	Elimination reaction	Stereochemistry of E2 reaction, factor affecting E1, E2 and E1CB
	9	Priyanka Mishra	IV	Elimination reaction	E1CB mechanism
02.09.2021	11	AbhinavTripathi	III	Preparation , structure and bonding	Polyphosphazene
		Priyanka Mishra	CT		
03.09.2021	13	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry point group applied to all type of molecules Td, Oh, and Ih
	13	Dr. R. Sahay	II	Quantum Mechanical treatment	Classical quantum
04.09.2021	14	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry point group applied to all type of molecules Td, Oh, and Ih
	14	Dr. R. Sahay	II	Quantum Mechanical treatment	Energy level of harmonic and anharmonic oscillator
06.09.2021	15	Sanjay Jaiswal	I	Molecular Symmetry	Group multiplication basis , Matrices representation character of an operation
	15	Dr. R. Sahay	II	Quantum Mechanical treatment	Rigid rotor model of a diatomic molecules

07.09.2021	12	AbhinavTripathi	III	Preparation , structure and bonding	Polyphosphazene
	10	Dr. S. K. Vernwal	IV	Substitution reaction	Mechanism of halogenation, Friedal crafts reaction
08.09.2021	13	AbhinavTripathi	III	Preparation , structure and bonding	Thiazyl and its polymers
	11	Dr. S. K. Vernwal	IV	Substitution reaction	Orientation
09.09.2021	14	AbhinavTripathi	III	Preparation , structure and bonding	S4N2
		Dr. S. K. Vernwal	CT		
11.09.2021	16	Sanjay Jaiswal	I	Molecular Symmetry	Orthogonality , Character table
	16	Dr. R. Sahay	II	Quantum Mechanical treatment	Energy level of a rigid rotor
13.09.2021	17	Sanjay Jaiswal	I	Molecular Symmetry	Character tables
	17	Dr. R. Sahay	II	Quantum Mechanical treatment	Rigid rotor , Selection rule
14.09.2021	18	Sanjay Jaiswal	I	Molecular Symmetry	Reducible representation and Irreducible representation
	18	Dr. R. Sahay	II	Quantum Mechanical treatment	A non rigid rotor
15.09.2021	15	AbhinavTripathi	III	Preparation , structure and bonding	Bonding in borane anaion
	12	Priyanka Mishra	IV	Elimination reaction	E2CB and E2 reaction
16.09.2021	16	AbhinavTripathi	III	Structure and bonding of borane anions	Structure of borane anions
1012222-+	13	Dr. S. K. Vernwal	IV	Substitution reaction	Orientation

16.9.2021		AbhinavTripathi	CT		
	14	Dr. S. K. Vernwal	IV	Substitution reaction	Ortho-paira ratio
18.09.2021	19	Sanjay Jaiswal	I	Molecular Symmetry	Reducible representation and Irreducible representation
	19	Dr. R. Sahay	II	Schrodinger equation for H- atom	Transformation of coordinates
20.09.2021	20	Sanjay Jaiswal	I	Molecular Symmetry	Groups , subgroup and classes
	20	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of Variables
21.09.2021	21	Sanjay Jaiswal	I	Molecular Symmetry	Groups , subgroup and classes
	21	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of Variables
22.09.2021	17	AbhinavTripathi	III	Structure and bonding of borane anions	Structure of borane anions
	15	Dr. S. K. Vernwal	IV	Substitution reaction	Aromatic nucleophilic substitution(ArSN)
23.09.2021	18	AbhinavTripathi	III	Classification of structure of silicates	Silicates
	16	Dr. S. K. Vernwal	IV	Monthly Evaluation	Aromatic nucleophilic substitution(ArSN)
25.09.2021	19	AbhinavTripathi	III	Classification of structure of silicates	Classification of silicates
		Priyanka Mishra	ME		
27.09.2021	22	Sanjay Jaiswal	I	Molecular Vibrations	Symmetry of normal vibration
	22	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of Variables
29.09.2021	23	Sanjay Jaiswal	I	Molecular Vibrations	Determination of normal mode by Internal and Cartesian coordinade methods
	23	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of Variables
30.09.2021	24	Sanjay Jaiswal	I	Molecular Vibrations	Determination of normal mode by Internal and Cartesian coordinade methods
	24	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of R , THEETA, FAI
01.10.2021	20	AbhinavTripathi	III	Classification of structure of silicates	Structure of silicates
	17	Dr. S. K. Vernwal	IV	Substitution reaction	Comparison between Substitution and Elimination reaction Addition – elimination and elimination

					–addition mechanism
04.10.2021	21	AbhinavTripathi	III	Classification of structure of silicates	3D silicates
	18	Priyanka Mishra	IV	Elimination reaction	Mechanism and stereochemistry of SN2 reaction
05.10.2021		AbhinavTripathi	CT		
	19	Dr. S. K. Vernwal	IV	Substitution reaction	Mechanism and stereochemistry of SN1 reactions
07.10.2021	25	Sanjay Jaiswal	I	Molecular Vibrations	Determination of normal mode by Internal and Cartesian coordinade methods
	25	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of R , THEETA, FAI
08.10.2021	26	Sanjay Jaiswal	I	Molecular Vibrations	Mixing of Internal coordinate in normal mode
	26	Dr. R. Sahay	II	Schrodinger equation for H- atom	Spherical harmonics, electron spin
09.10.2021	27	Sanjay Jaiswal	I	Molecular Vibrations	Mixing of Internal coordinate in normal mode
	27	Dr. R. Sahay	II	Many electron atoms	Anti symmetry
11.10.2021	22	AbhinavTripathi	III	Synthesis and structure Of	Polyions of Sn
	20	Dr. S. K. Vernwal	IV	Substitution reaction	Mechanism and stereochemistry of SN2 reactions
18.10.2021	23	AbhinavTripathi	III	Synthesis and structure Of	Polyions of Pb

	21	Priyanka Mishra	IV	Addition reaction	Mechanism and stereochemistry of addition of halogen
20.10.2021	24	AbhinavTripathi	III	Synthesis and structure Of	Polyions of Sb
		Dr. S. K. Vernwal	CT		
21.10.2021	28	Sanjay Jaiswal	I	Molecular Vibrations	Mixing of Internal coordinate in normal mode
	28	Dr. R. Sahay	II	Many electron atoms	Many electron atoms
22.10.2021	29	Sanjay Jaiswal	I	Molecular Vibrations	Selection rule for IR and Raman spectroscopy
	29	Dr. R. Sahay	II	Many electron atoms	Anti symmetry and slater determination
23.10.2021	30	Sanjay Jaiswal	I	Molecular Vibrations	Normal coordinate analysis of water molecules and its IR and Raman activity
	29	Dr. R. Sahay	II	Many electron atoms	Slater determination for the wave function
25.10.2021	25	AbhinavTripathi	III	Synthesis and structure Of	Polyions of Mg
	22	Priyanka Mishra	IV	Addition reaction	Addition of halogen acids
26.10.2021	26	AbhinavTripathi	III	Synthesis and structure Of	Polyions of Mg, Definition and classification of oragnometallic compounds
	23	Dr. S. K. Vernwal	IV	Substitution reaction	Nucleophilic substitution of bridge head carbon atom
27.10.2021		AbhinavTripathi	ME		
	24	Priyanka Mishra	IV	Addition reaction	Addition of halogen acids
28.10.2021	31	Sanjay Jaiswal	I	Molecular Vibrations	Normal coordinate analysis of water molecules and its IR and Raman activity
	30	Dr. R. Sahay	II	Many electron atoms	Wave function of ground state of multi electron atoms
29.10.2021	32	Sanjay Jaiswal	I	Molecular Vibrations	Normal coordinate analysis of water molecules and its IR and Raman activity
	31	Dr. R. Sahay	II	Many electron atoms	Wave function of ground state of multi electron atoms
30.10.2021	33	Sanjay Jaiswal	I	Molecular Vibrations	Normal coordinate analysis of Ammonia molecules and its IR and

					Raman activity
	32	Dr. R. Sahay	II	Many electron atoms	Self constant , Approximation (Hartree's theory)
08.11.2021	27	AbhinavTripathi	III	Organometallic Compounds	Organometallic compounds metal carbonyls bond
	25	Priyanka Mishra	IV	Addition reaction	1,2 –Hydroxilation , epoxidation
09.11.2021	28	AbhinavTripathi	III	Organometallic Compounds	Organometallic compounds metal carbonyls bond
	26	Dr. S. K. Vernwal	IV	Substitution reaction	Neighbouring group participation (NGP)
11.11.2021	29	AbhinavTripathi	III	Alkyl and aryls	Organolithium compounds
		Priyanka Mishra	CT		
12.11.2021	34	Sanjay Jaiswal	I	Molecular Vibrations	Normal coordinate analysis of Ammonia molecules and its IR and Raman activity
	33	Dr. R. Sahay	II	Many electron atoms	Self constant , Approximation (Hartree's theory)
13.112021	35	Sanjay Jaiswal	I	Molecular Vibrations	Normal coordinate analysis of Ammonia molecules and its IR and Raman activity
	34	Dr. R. Sahay	II	Many electron atoms	Self constant , Approximation (Hartree's theory)
16.11.2021	36	Sanjay Jaiswal	I	Molecular Vibrations	Normal coordinate analysis of Ammonia molecules and its IR and Raman activity
	35	Dr. R. Sahay	II	Aproximation methods	Variation method
17.11.2021	30	AbhinavTripathi	III	Alkyl and aryls	Organoberilium compound
	27	Priyanka Mishra	IV	Addition reaction	Hydroboration of alkene
18.11.2021	31	AbhinavTripathi	III	Alkyl and aryls	Organo -aluminium compounds, Organo- tin compounds

	28	Priyanka Mishra	IV	Addition reaction	Mechanism of addition of Grignard reagent
20.11.2021		AbhinavTripathi	CT		
	29	Priyanka Mishra	IV	Addition reaction	Organo -Zn and organo- Li saturated and unsaturated compound
22.11.2021	37	Sanjay Jaiswal	I	Molecular Vibrations	Normal coordinate analysis of Ammonia molecules and its IR and Raman activity
	36	Dr. R. Sahay	II	Aproximation methods	Variation method
23.11.2021	38	Sanjay Jaiswal	I	Molecular Vibrations	Numerical problems
	37	Dr. R. Sahay	II	Aproximation methods	Variation method
25.11.2021	39	Sanjay Jaiswal	I	Molecular Vibrations	Numerical problems
	38	Dr. R. Sahay	II	Aproximation methods	Problems & Solutions
26.11.2021	32	AbhinavTripathi	III	Alkyl and aryls	Organo- tin compounds
	30	Priyanka Mishra	IV	Addition reaction	Organo- Li saturated and unsaturated nitriles
27.11.2021	33	AbhinavTripathi	III	Alkyl and aryls	Organo- tin compounds
	31	Priyanka Mishra	IV	Addition reaction	Cannizzaro reaction, Claisen reaction and Knoevenagel
29.11.2021	34	AbhinavTripathi	III	Alkyl and aryls	Problems & Solutions
		Priyanka Mishra	ME		
30.11.2021	40	Sanjay Jaiswal	I	Molecular Vibrations	Numerical problems
	39	Dr. R. Sahay	II	Aproximation methods	Numerical problems
Extra	41	Sanjay Jaiswal	I	Molecular Vibrations	Numerical problems
*	40	Dr. R. Sahay	II	Problems & Solutions	
*	41	Sanjay Jaiswal	I	Molecular Vibrations	Numerical problems
*	41	Dr. R. Sahay	II	Aproximation	Problems

				methods	&Solutions
*	32	Dr. S. K. Vernwal	IV	Substitution reaction	Participation of sigma bond as NGP
*	33	Dr. S. K. Vernwal	IV	Substitution reaction	Participation of pi bond and phenyl ring as NGP
*	34	Dr. S. K. Vernwal	IV	Basic principles of Organic reaction mechanism	Potential energy diagram , Transition state and Intermediate
*	35	Dr. S. K. Vernwal	IV	Basic principles of Organic reaction mechanism	Method of determination of organic reaction mechanism
*	36	Dr. S. K. Vernwal	IV	Basic principles of Organic reaction mechanism	Method of determination of organic reaction mechanism
*	37	Dr. S. K. Vernwal	IV	Basic principles of Organic reaction mechanism	Kinetic isotope effect and its importance