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Class : M.Sc. I st Sem.		LESSION PLAN : 2020-21			Subject : Chemistry
DATE	LECTURE	TEACHER'S NAME	PAPER	CHAPTER	TOPIC
04.08.2020	1	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry Elements
	1	Dr. R. Sahay	II	Fundamental Concepts	Introduction ,Operators
05.08.2020	2	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry Elements
	2	Dr. R. Sahay	II	Fundamental Concepts	Algebra of Operators , Commut, Linear and Vector operators
06.08.2020	3	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry operation
	3	Dr. R. Sahay	II	Fundamental Concepts	Laplacian and Hermition operators
07.08.2020	1	Pradeep Verma	III	Stereochemistry of bonding in main group component	dπ pπ bonds
	1	Priyanka Mishra	IV	Elimination reaction	E1 reactions
08.08.2020	2	Pradeep Verma	III	Stereochemistry of bonding in main group component	Bents rule
	2	Priyanka Mishra	IV	Elimination reaction	E1 mechanism
10.08.2020		Pradeep Verma	CT		
	3	Priyanka Mishra	IV	Elimination reaction	E2 reactions
11.08.2020	4	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry operation with special reference to water molecules
	4	Dr. R. Sahay	II	Fundamental Concepts	Laplacian operators
13.08.2020	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 orthogonality
14.08.2020	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 orthogonality
17.08.2020	3	Pradeep Verma	III	Stereochemistry of bonding in main group component	Energetics of Hybridisation
	4	Dr. S. K. Verwal	IV	Substitution reaction	General view, Arenium ion mechanism(ArSE)
18.08.2020	4	Pradeep Verma	III	Stereochemistry of bonding in main group component	Energetics of Hybridisation
	5	Priyanka Mishra	IV	Elimination reaction	E2 mechanism
19.08.2020	5	Pradeep Verma	III	Stereochemistry of bonding in main group component	Polyether complexes of alakali metals
		Priyanka Mishra	CT		
20.08.2020	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
21.08.2020	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
22.08.2020	9	Sanjay Jaiswal	I	Molecular Symmetry	Derivation Of Matrices for rotation , reflection
	9	Dr. R. Sahay	II	Fundamental Concepts	Particle in one dimensional box
24.08.2020	6	Pradeep Verma	III	Preparation , structure and bonding	Polyether complexes of alakali metals
	6	Priyanka Mishra	IV	Elimination reaction	E1CB reaction
25.08.2020	7	Pradeep Verma	III	Preparation , structure and bonding	Polyether complexes of alakali metals

	7	Priyanka Mishra	IV	Elimination reaction	E1CB mechanism
26.08.2020	8	Pradeep Verma	III	Preparation , structure and bonding	Polyether complexes of alkaline metals
		Priyanka Mishra	ME		
27.08.2020	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
28.08.2020	11	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry point group applied to all type of molecules C_{nh} , D_{nh} , C_{nv}
	11	Dr. R. Sahay	II	Fundamental Concepts	Particle in one dimensional box
01.09.2020	12	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry point group applied to all type of molecules T_d , O_h , and I_h
	12	Dr. R. Sahay	II	Quantum Mechanical treatment	One dimensional harmonic oscillator
02.09.2020	9	Pradeep Verma	III	Preparation , structure and bonding	Polyether complexes of alkaline metals
	8	Dr. S. K. Verwal	IV	Substitution reaction	Mechanism of Nitration and Sulphonation
03.09.2020	10	Pradeep Verma	III	Elimination reaction	Stereochemistry of E2 reaction, factor affecting E1, E2 and E1CB
	9	Priyanka Mishra	IV	Elimination reaction	E1CB mechanism
04.09.2020	11	Pradeep Verma	III	Preparation , structure and bonding	Polyphosphazene
		Priyanka Mishra	CT		
05.09.2020	13	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry point group applied to all type of molecules T_d , O_h , and I_h
	13	Dr. R. Sahay	II	Quantum Mechanical treatment	Classical quantum
07.09.2020	14	Sanjay Jaiswal	I	Molecular Symmetry	Symmetry point group applied to all type of molecules T_d , O_h , and I_h
	14	Dr. R. Sahay	II	Quantum Mechanical treatment	Energy level of harmonic and anharmonic oscillator
08.09.2020	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
09.09.2020	12	Pradeep Verma	III	Preparation , structure and bonding	Polyphosphazene
	10	Dr. S. K. Verwal	IV	Substitution reaction	Mechanism of halogenation, Friedel crafts reaction
10.09.2020	13	Pradeep Verma	III	Preparation , structure and bonding	Thiazyl and its polymers
	11	Dr. S. K. Verwal	IV	Substitution reaction	Orientation
11.09.2020	14	Pradeep Verma	III	Preparation , structure and bonding	S_4N_2
		Dr. S. K. Verwal	CT		
12.09.2020	16	Sanjay Jaiswal	I	Molecular Symmetry	Orthogonality , Character table
	16	Dr. R. Sahay	II	Quantum Mechanical treatment	Energy level of a rigid rotor
14.09.2020	17	Sanjay Jaiswal	I	Molecular Symmetry	Character tables
	17	Dr. R. Sahay	II	Quantum Mechanical treatment	Rigid rotor , Selection rule
15.09.2020	18	Sanjay Jaiswal	I	Molecular Symmetry	Reducible representation and Irreducible representation
	18	Dr. R. Sahay	II	Quantum Mechanical treatment	A non rigid rotor
16.09.2020	15	Pradeep Verma	III	Preparation , structure and bonding	Bonding in borane anion
	12	Priyanka Mishra	IV	Elimination reaction	E2CB and E2 reaction
18.09.2020	16	Pradeep Verma	III	Structure and bonding of borane anions	Structure of borane anions
	13	Dr. S. K. Verwal	IV	Substitution reaction	Orientation

19.09.2020		Pradeep Verma	CT		
	14	Dr. S. K. Vernwal	IV	Substitution reaction	Ortho-paira ratio
21.09.2020	19	Sanjay Jaiswal	I	Molecular Symmetry	Reducible representation and Irreducible representation
	19	Dr. R. Sahay	II	Schrodinger equation for H- atom	Transformation of coordinates
22.09.2020	20	Sanjay Jaiswal	I	Molecular Symmetry	Groups , subgroup and classes
	20	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of Variables
23.09.2020	21	Sanjay Jaiswal	I	Molecular Symmetry	Groups , subgroup and classes
	21	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of Variables
24.09.2020	17	Pradeep Verma	III	Structure and bonding of borane anions	Structure of borane anions
	15	Dr. S. K. Vernwal	IV	Substitution reaction	Aromatic nucleophilic substitution(ArSN)
25.09.2020	18	Pradeep Verma	III	Classification of structure of silicates	Silicates
	16	Dr. S. K. Vernwal	IV	Monthly Evaluation	Aromatic nucleophilic substitution(ArSN)
26.09.2020	19	Pradeep Verma	III	Classification of structure of silicates	Classification of silicates
		Priyanka Mishra	ME		
28.09.2020	22	Sanjay Jaiswal	I	Molecular Vibrations	Symmetry of normal vibration
	22	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of Variables
29.09.2020	23	Sanjay Jaiswal	I	Molecular Vibrations	Determination of normal mode by Internal and Cartesian coordinate methods
	23	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of Variables
30.09.2020	24	Sanjay Jaiswal	I	Molecular Vibrations	Determination of normal mode by Internal and Cartesian coordinate methods
	24	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of R , THEETA, FAI
01.10.2020	20	Pradeep Verma	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
03.10.2020	21	Pradeep Verma	III	Classification of structure of silicates	3D silicates
	18	Priyanka Mishra	IV	Elimination reaction	Mechanism and stereochemistry of SN2 reaction
05.10.2020		Pradeep Verma	CT		
	19	Dr. S. K. Vernwal	IV	Substitution reaction	Mechanism and stereochemistry of SN1 reactions
06.10.2020	25	Sanjay Jaiswal	I	Molecular Vibrations	Determination of normal mode by Internal and Cartesian coordinate methods
	25	Dr. R. Sahay	II	Schrodinger equation for H- atom	Separation of R , THEETA, FAI
07.10.2020	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
09.10.2020	27	Sanjay Jaiswal	I	Molecular Vibrations	Mixing of Internal coordinate in normal mode
	27	Dr. R. Sahay	II	Many electron atoms	Anti symmetry
10.10.2020	22	Pradeep Verma	III	Synthesis and structure of	Polyions of Sn
	20	Dr. S. K. Vernwal	IV	Substitution reaction	Mechanism and stereochemistry of SN2 reactions
12.10.2020	23	Pradeep Verma	III	Synthesis and structure of	Polyions of Pb

	21	Priyanka Mishra	IV	Addition reaction	Mechanism and stereochemistry of addition of halogen
13.10.2020	24	Pradeep Verma	III	Synthesis and structure of	Polyions of Sb
		Dr. S. K. Vernwal	CT		
14.10.2020	28	Sanjay Jaiswal	I	Molecular Vibrations	Mixing of Internal coordinate in normal mode
	28	Dr. R. Sahay	II	Many electron atoms	Many electron atoms
15.10.2020	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
16.10.2020	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
17.10.2020	25	Pradeep Verma	III	Synthesis and structure of	Polyions of Mg
	22	Priyanka Mishra	IV	Addition reaction	Addition of halogen acids
19.10.2020	26	Pradeep Verma	III	Synthesis and structure of	Polyions of Mg, Definition and classification of organometallic compounds
	23	Dr. S. K. Vernwal	IV	Substitution reaction	Nucleophilic substitution of bridge head carbon atom
20.10.2020		Pradeep Verma	ME		
	24	Priyanka Mishra	IV	Addition reaction	Addition of halogen acids
21.10.2020	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
22.10.2020	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
23.10.2020	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)
29.10.2020	27	Pradeep Verma	III	Organometallic Compounds	Organometallic compounds metal carbonyls bond
	25	Priyanka Mishra	IV	Addition reaction	1,2 –Hydroxylation, epoxidation
31.10.2020	28	Pradeep Verma	III	Organometallic Compounds	Organometallic compounds metal carbonyls bond
	26	Dr. S. K. Vernwal	IV	Substitution reaction	Neighbouring group participation (NGP)
02.11.2020	29	Pradeep Verma	III	Alkyl and aryls	Organolithium compounds
		Priyanka Mishra	CT		
03.11.2020	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)
04.11.2020	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)
05.11.2020	36	Sanjay Jaiswal	I	Molecular Vibrations	Normal coordinate analysis of Ammonia molecules and its IR and Raman activity
	35	Dr. R. Sahay	II	Approximation methods	Variation method
06.11.2020	30	Pradeep Verma	III	Alkyl and aryls	Organoberilium compound
	27	Priyanka Mishra	IV	Addition reaction	Hydroboration of alkene
07.11.2020	31	Pradeep Verma	III	Alkyl and aryls	Organo -aluminium compounds, Organo- tin compounds

	28	Priyanka Mishra	IV	Addition reaction	Mechanism of addition of Grignard reagent
09.11.2020		Pradeep Verma	CT		
	29	Priyanka Mishra	IV	Addition reaction	Organo- Zn and organo- Li saturated and unsaturated compound
10.11.2020	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
17.11.2020	38	Sanjay Jaiswal	I	Molecular Vibrations	Numerical problems
	37	Dr. R. Sahay	II	Aproximation methods	Variation method
18.11.2020	39	Sanjay Jaiswal	I	Molecular Vibrations	Numerical problems
	38	Dr. R. Sahay	II	Aproximation methods	Problems & Solutions
19.11.2020	32	Pradeep Verma	III	Alkyl and aryls	Organo- tin compounds
	30	Priyanka Mishra	IV	Addition reaction	Organo- Li saturated and unsaturated nitriles
21.11.2020	33	Pradeep Verma	III	Alkyl and aryls	Organo- tin compounds
	31	Priyanka Mishra	IV	Addition reaction	Cannizzaro reaction, Claisen reaction and Knoevenagel
23.11.2020	34	Pradeep Verma	III	Alkyl and aryls	Problems & Solutions
		Priyanka Mishra	ME		
24.11.2020	40	Sanjay Jaiswal	I	Molecular Vibrations	Numerical problems
	39	Dr. R. Sahay	II	Aproximation methods	Numerical problems
26.11.2020	41	Sanjay Jaiswal	I	Molecular Vibrations	Numerical problems
	40	Dr. R. Sahay	II	Problems & Solutions	
27.11.2020	41	Sanjay Jaiswal	I	Molecular Vibrations	Numerical problems
	41	Dr. R. Sahay	II	Aproximation methods	Problems & Solutions
28.11.2020	32	Dr. S. K. Vernwal	IV	Substitution reaction	Participation of sigma bond as NGP
* Extra	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

Note:- Lectures of Mr. Pradeep Verma will teach by Mr. Sanjay Jaiswal.