

Maharana Pratap P.G. College Jungle Dhusan, Gorakhpur

Class: M.Sc. I st Semester			Lesson Plan: 2015-16		Subject: Chemistry
Date	Lecture No	Teachers Name	Paper	Lesson	Topic
01.08.2015	1	Dr. Ram Sahay	I	Molecular symmetry	Symmetry Elements
01.08.2015	1	Dr. Pradeep Rao	II	Fundamental Concepts	Introduction operators
03.08.2015	1	Priyanka Mishra	IV	Elimination reaction	E1 reaction
03.08.2015	1	Pradeep Verma	III	Stereochemistry of bonding in main group components	$d\pi-p\pi$ bonds
04.08.2015	2	Priyanka Mishra	IV	Elimination reaction	E1 Mechanism
04.08.2015	2	Pradeep Verma	III	Stereochemistry of bonding in main group components	$d\pi-p\pi$ bonds
05.08.2015	2	Dr. Ram Sahay	I	Molecular symmetry	Symmetry Operations
05.08.2015	2	Dr. Pradeep Rao	II	Fundamental Concepts	Algebra of operators commutators, linear, vector operator
06.08.2015	3	Dr. Ram Sahay	I	Molecular symmetry	Special reference to water
06.08.2015	3	Dr. Pradeep Rao	II	Fundamental Concepts	Laplacian operator, hermitian operators
07.08.2015		Dr. S.K. Vernwal		Class Teaching	
07.08.2015	3	Pradeep Verma	III	Stereochemistry of bonding in main group components	Bent's Rule
08.08.2015	4	Dr. Ram Sahay	I	Molecular symmetry	Special reference to ethane
08.08.2015	4	Dr. Pradeep Rao	II	Fundamental Concepts	Concept of normalization & Orthogonality in wave function
10.08.2015	3	Priyanka Mishra	IV	Elimination reaction	E1 mechanism
10.08.2015	4	Pradeep Verma	III	Stereochemistry of bonding in main group components	Energetics of hybridization
11.08.2015	4	Priyanka Mishra	IV	Elimination reaction	E2 reaction
11.08.2015	5	Pradeep Verma	III	Stereochemistry of bonding in main group components	Energetics of hybridization
12.08.2015	5	Dr. Ram Sahay	I	Molecular symmetry	Classification of molecules
12.08.2015	5	Dr. Pradeep Rao	II	Fundamental Concepts	Postulates of quantum mechanics
13.08.2015	6	Dr. Ram Sahay	I	Molecular symmetry	Classification of molecules and ions
13.08.2015	6	Dr. Pradeep Rao	II	Fundamental	Schrodinger wave

				Concepts	equation
14.08.2015		Dr. S.K. Vernwal		Classs Teaching	
14.08.2015	6	PradeepVerma	III	Preparation structure bonding & technical applications	Polyether complexes of alkali metals
17.08.2015	5	Priyanka Mishra	IV	Elimination reaction	E2 mechanism
17.08.2015	7	PradeepVerma	III	Preparation structure bonding & technical applications	Polyether complexes of alkaline earth metals
18.08.2015	6	Priyanka Mishra	IV	Elimination reaction	E2 mechanism
18.08.2015	8	PradeepVerma	III	Preparation structure bonding & technical applications	Polyphosphazenes
20.08.2015	7	Dr. Ram Sahay	I	Molecular symmetry	Ions based on their symmetry properties
20.08.2015	7	Dr. PradeepRao	II	Fundamental Concepts	Particles in one dimensional box
21.08.2015	7	Dr. S.K. Vernwal	IV	Substitution reactions	Areniumion mechanism (ArSE)
21.08.2015	9	PradeepVerma	III	Preparation structure bonding & technical applications	Polyphasphazenes
22.08.2015		Dr. Ram Sahay	I	Molecular symmetry	Derivation of matrices for rotation, reflection
22.08.2015	8	Dr. PradeepRao	II	Fundamental Concepts	Particle in three dimensional box
23.08.2015		Dr. Ram Sahay		M.E.	
23.08.2015	8	Priyanka Mishra	IV	Elimination reaction	E1cb reaction
24.08.2015	9	Priyanka Mishra	IV	Elimination reaction	E1cb reaction
24.08.2015	10	PradeepVerma	III	Preparation structure bonding & technical applications	Polyphasphazenes
25.08.2015	10	Priyanka Mishra	IV	Elimination reaction	Orientation
25.08.2015	11	PradeepVerma	III	Preparation structure bonding & technical applications	Thiazyle& its polymer
26.08.2015	9	Dr. Ram Sahay	I	Molecular symmetry	Derivation of matrices for rotation, reflection
26.08.2015	9	Dr. PradeepRao	II	Quantum mechanical treatment	1-D harmonic oscillator classical treatment
27.08.2015	10	Dr. Ram Sahay	I	Molecular symmetry	Rotation & reflection and inversion operations
27.08.2015	10	Dr. PradeepRao	II	Quantum mechanical treatment	Quantum mechanical treatment

31.08.2015	11	Priyanka Mishra	IV	Elimination reaction	Orientation
31.08.2015	12	PradeepVerma	III	Preparation structure bonding & technical applications	S ₄ N ₂
01.09.2015		Priyanka Mishra		C.T.	
01.09.2015	13	PradeepVerma	III	Structure and bonding of borane anions	Borane anions
03.09.2015	11	Dr. Ram Sahay	I	Molecular symmetry	Symmetry point groups Applied to all molecules
03.09.2015	11	Dr. PradeepRao	II	Quantum mechanical treatment	Energy levels of harmonic and an Am harmonic oscillator
04.09.2015	12	Dr. S.K. Vernwal	IV	Substitution reactions	Mechanism of hlogenation and nitration
04.09.2015	14	PradeepVerma	III	Structure of bonding of borane anions	Structure relationship b/w different borane anions
07.09.2015	13	Priyanka Mishra	IV	Elimination reaction	Pyrolyticelemination
07.09.2015	15	PradeepVerma	III	Structure and bonding of borane anions	Bonding in borane anions
08.09.2015	14	Priyanka Mishra	IV	Elimination reaction	Stereochemistry of E2 reaction factors affecting E1, E2 & E1cb
08.09.2015	16	PradeepVerma	III	Structure and bonding of borane anions	Wade's rule
09.09.2015	12	Dr. Ram Sahay	I	Molecular symmmetry	symmetry point groups Apply to all type molecules
09.09.2015	12	Dr. PradeepRao	II	Quantum mechanical treatment	Rigid rotor model of a diatomic model energy levels of a rigid rotor
10.09.2015		Dr. Ram Sahay	I	C.T.	
10.09.2015	13	Dr. PradeepRao	II	Quantum mechanical treatment	Rigid rotor selection rule, non rigid rotors
11.09.2015	15	Dr. S.K. Vernwal	IV	Substitution reaction	Mechanism of nitration & sulphonation
11.09.2015	17	PradeepVerma	III	Structure of bonding of borane anions	Structure of different boranes
12.09.2015	13	Dr. Ram Sahay	I	Molecular symmetry	Cnh, Dnh, Cnv
12.09.2015	14	Dr. PradeepRao	II	Schrodinger equation for H-atom	Transformation of Coordinates
14.09.2015	16	Priyanka Mishra	IV	Elimination reaction	Factors affecting E1, E2 & E1cb reaction

14.09.2015	18	PradeepVerma	III	Classification & structure of silicates	Silicates
15.09.2015	17	Priyanka Mishra	IV	Elimination reaction	Competition between substitution and elimination reaction
15.09.2015	19	PradeepVerma	III	Classification & structure of silicates	Classification of silicates
16.09.2015	14	Dr. Ram Sahay	I	Molecular symmetry	Td, Oh, & In
16.09.2015	15	Dr. PradeepRao	II	Schrodinger equation for H-atom	Separation of variables
18.09.2015	18	Priyanka Mishra	IV	Addition reaction	Mechanism & Stereochemistry of addition of halogen & halogen acid
18.09.2015		PradeepVerma		C.T.	
19.09.2015	15	Dr. Ram Sahay	I	Molecular symmetry	Group multiplication basis
19.09.2015	16	Dr. PradeepRao	II	Schrodinger equation for H-atom	$\square$, $\square$ & equation and their solution
21.09.2015	19	Priyanka Mishra	IV	Addition reactions	Addition of halogen acid
21.09.2015	20	PradeepVerma	III	Classification & Structure of silicates	Classification of silicates
22.09.2015	20	Priyanka Mishra	IV	Addition reaction	1,2-hydroxylation, epoxidation
22.09.2015	21	PradeepVerma	III	Classification & structure of silicates	Structure of silicates
23.09.2015	16	Dr. Ram Sahay	I	Molecular symmetry	Matrix representation
23.09.2015	17	Dr. PradeepRao	II	Schrodinger equation for H-atom	Spherical harmonics, electron spin
24.09.2015	17	Dr. Ram Sahay	I	Molecular symmetry	Matrix representation
24.09.2015	18	Dr. PradeepRao	II	Many electron atoms	Antisymmetry and slater determinant of wave function
26.09.2015	18	Dr. Ram Sahay	I	Molecular symmetry	Character of an operation
26.09.2015		Dr. PradeepRao		M.E.	
28.09.2015	21	Priyanka Mishra	IV	Addition reactions	Hydroboration, oxymercurationdemercuration
28.09.2015	22	PradeepVerma	III	Classification & structure of silicates	3D-Silicates
29.09.2015	22	Priyanka Mishra	IV	Addition reactions	Hydrogenation of alkenes & sharpless asymmetric epoxidation
29.09.2015	23	PradeepVerma	III	Synthesis & structure	Carbides
01.10.2015	19	Dr. Ram Sahay	I	Molecular Symmetry	Orthogonality
01.10.2015	19	Dr. PradeepRao	II	Many electron atom	Slater determinant

03.10.2015	20	Dr. Ram Sahay	I	Molecular symmetry	Character table
03.10.2015	20	Dr. Pradeep Rao	II	Many electron atom	Self-Consistent field theory
05.10.2015	23	Dr. S.K. Vernwal	IV	Substitution reaction	Mechanism of Friedel Craft's reaction (alkylation and acylation)
05.10.2015	24	Pradeep Verma	III	Synthesis and structure	Carbides
06.10.2015	24	Dr. S.K. Vernwal	IV	Substitution reactions	Ortho-para ratio & ipso substitution
06.10.2015		Pradeep Verma		Class Teaching	
07.10.2015	21	Dr. Ram Sahay	I	Molecular symmetry	Reducible and irreducible representations
07.10.2015	21	Dr. Pradeep Rao	II	Many electron atom	Hartree's theory
08.10.2015	22	Dr. Ram Sahay	I	Molecular symmetry	Groups subgroups and classes
08.10.2015	22	Dr. Pradeep Rao	II	Approximation method	Introduction
09.10.2015	25	Priyanka Mishra	IV	Addition reaction	Mechanism of addition of Grignard reagent
09.10.2015	25	Pradeep Verma	III	Synthesis & Structure	Polyions of Ge
10.10.2015	23	Dr. Ram Sahay	I	Molecular vibration	Symmetry of normal vibrations
10.10.2015	23	Dr. Pradeep Rao	II	Approximation method	Variations method
14.10.2015	24	Dr. Ram Sahay	I	Molecular vibration	Determination of normal modes by Internal method
14.10.2015	24	Dr. Pradeep Rao	II	Approximation method	Variations method
15.10.2015	25	Dr. Ram Sahay	I	Molecular vibration	Cartesian coordinate method
15.10.2015		Dr. Pradeep Rao		C.T.	
16.10.2015	26	Priyanka Mishra	IV	Addition reaction	Organo-Zn and Organo-Li saturated and unsaturated carbonyl compounds
16.10.2015	26	Pradeep Verma	III	Synthesis & Structure	Sn and Pb
17.10.2015	26	Dr. Ram Sahay	I	Molecular vibration	Cartesian coordinate method
17.10.2015	25	Dr. Pradeep Rao	II	Approximation method	Perturbation method
19.10.2015	27	Dr. S.K. Vernwal	IV	Substitution reactions	Aromatic substitution reaction (ArSN)
19.10.2015	27	Pradeep Verma	III	Synthesis & Structure	Sb, Bi and Mg
28.10.2015	27	Dr. Ram Sahay	I	Molecular vibration	Mixing of internal coordinate in normal modes

28.10.2015	26	Dr. PradeepRao	II	Approximation method	First order correction for energy
29.10.2015	28	Dr. Ram Sahay	I	Molecular vibration	Selection rule for IR spectroscopy
29.10.2015	27	Dr. PradeepRao	II	Approximation method	First order correction for wave function
30.10.2015	28	Dr. S.K. Vernawal	IV	Substitution reaction	Addition –elimination and elimination-addition mechanism
30.10.2015		PradeepVerma		M.E.	
31.10.2015	29	Dr. Ram Sahay	I	Molecular vibration	Selection rule for Raman spectroscopy
31.10.2015	28	Dr. PradeepRao	II	Approximation method	An example of perturbation method
02.11.2015	29	Dr. S.K. Vernwal	IV	Substitution reaction	Effect of substrate, nucleophile and leaving group on ArSN reaction
02.11.2015	28	PradeepVerma	III	Definition & classification of organometallic compounds	Definition of organometallic compounds
03.11.2015	30	Dr. S.K. Vernwal	IV	Substitution reactions	Aliphatic nucleophilic substitution: mechanism and stereochemistry
03.11.2015	29	PradeepVerma	III	Definition & classification of organometallic compounds	Classification of organometallic compounds
04.11.2015	30	Dr. Ram Sahay	I	Molecular vibration	Normal coordinate analysis of water Molecule
04.11.2015	29	Dr. PradeepRao	II	Approximation method	Example of variation method
05.11.2015	31	Dr. Ram Sahay	I	Molecular vibration	Normal coordinate analysis of water molecule
05.11.2015	30	Dr. PradeepRao	II	Problem based on	Eigen function
06.11.2015		Priyanka Mishra		C.T.	
06.11.2015	30	PradeepVerma	III	Organometallic compounds	Organometallic compounds, metal-carbon bonds
07.11.2015	32	Dr. Ram Sahay	I	Molecular vibration	Normal coordinate analysis of ammonia molecule
07.11.2015	31	Dr. PradeepRao	II	Problem based on	Eigen function
14.11.2015	33	Dr. Ram Sahay	I	Molecular vibration	Normal coordinate analysis of ammonia molecule
14.11.2015	32	Dr. PradeepRao	II	Problem based on	Eigen function
16.11.2015	31	Dr. S.K. Vernwal	IV	Substitution reactions	Mechanism and stereochemistry of SN2 reaction

16.11.2015	31	PradeepVerma	III	Alkyl and aryls	General methods of preparation
18.11.2015	34	Dr. Ram Sahay	I	Molecular vibration	Infrared spectral activity
18.11.2015					
19.11.2015	35	Dr. Ram Sahay	I	Molecular vibration	Infrared spectral activity
19.11.2015					
20.11.2015		Priyanka Mishra	IV	C.T.	
20.11.2015	32	PradeepVerma	III	Alkyl and aryls	Properties of Organolithium compounds
21.11.2015	36	Dr. Ram Sahay	I	Molecular vibration	Numerical problem
21.11.2015					
23.11.2015	32	Dr. S.K. Vernwal	IV	Substitution reaction	Mechanism of SN1 reaction
23.11.2015	33	PradeepVerma	III	Alkyl and aryls	Organolithium compounds
24.11.2015	33	Dr. S.K. Vernawal	IV	Substitution reaction	Role of substrate structure, nucleophile, leaving groups and solvent on SN reaction
24.11.2015	34	PradeepVerma	III	Alkyl and aryls	Organoaluminium compounds
25.11.2015	37	Dr. Ram Sahay	I	Molecular vibration	Numerical problem
25.11.2015	35	PradeepVerma	III	Alkyl and aryls	Properties of Organoaluminium compounds
27.11.2015		Priyanka Mishra		M.E.	
27.11.2015	36	PradeepVerma	III	Alkyl and aryls	Organo magnesium
30.11.2015	34	Dr. S.K Vernwal	IV	Substitution reaction	Nucleophilic substitution at bridged head carbon atom
30.11.2015	37	PradeepVerma	III	Alkyl and aryls	Organoberilium compounds
01.12.2015	35	Priyanka Mishra	IV	Addition Reactions	Organo Li saturated and unsaturated carbonyl compound and nitrites
01.12.2015	38	PradeepVerma	III	Alkyl & aryls	Hg & Sn compounds
07.12.2015	36	Dr. S.K Vernwal	IV	Substitution reactions	Neighbouring group participation (NGP)
07.12.2015					
08.12.2015	37	Dr. S.K Vernwal	IV	Substitution reactions	Evidence of NGP
08.12.2015		PradeepVerma		C.T.	
11.12.2015	38	P. Mishra	IV	Addition reaction	Cannizzaro reaction
11.12.2015					
14.12.2015	39	Dr. S.K Vernwal	IV	Substitution reaction	T and π bonds as NGP
15.12.2015	40	Dr. S.K Vernwal	IV	Substitution reaction	Halogen, N-atom and phenyl ring as NGP
16.12.2015		Dr. P.K. Rao		C.T.	

18.12.2015	41	P. Mishra	IV	Addition reaction	Claisen reaction & Knoevenagel reaction
21.12.2015	42	Dr. S.K Vernwal	IV	Basic principles of organic reaction mechanism	Potential energy diagram transition state intermediates
22.12.2015	43	Dr. S.K Vernwal	IV	Basic principles of organic reaction mechanism	Methods of determination of organic reaction mechanism
28.12.2015	44	Dr. S.K Vernwal	IV	Basic principles of organic reaction mechanism	Methods of determination of organic reaction mechanism
28.12.2015		Pradeep Verma		M.E.	
29.12.2015		Dr. S.K Vernwal		Basic principles of organic reaction mechanism	Kinetic isotope effect and its importance