

Maharana Pratap P.G. College Jungle Dhusan, Gorakhpur

Class : B.Sc. III rd LESSION PLAN : 2020-21 Subject : Chemistry					
DATE	LECTURE	TEACHER'S NAME	PAPER	CHAPTER	TOPIC
16.07.2020	01	Priyanka Mishra	III	Molecular rearrangements and reactions	Pinacol- Pinacolone rearrangement
17.07.2020	02	Priyanka Mishra	III	Molecular rearrangements and reactions	Benzil-Benzilic acid rearrangement
18.07.2020	01	Dr. R. Sahay	I	Photochemistry	Interaction of radiation with matter
20.07.2020	01	Dr. S. K. Vernwal	IV	Separation Techniques	Principle and analytical applications
20.07.2020	02	Dr. R. Sahay	I	Photochemistry	Difference between thermal and photochemical processes
21.07.2020	02	Dr. S. K. Vernwal	IV	Separation Techniques	Solvent extraction
21.07.2020	01	Sanjay Jaiswal	II	Chemistry of Lanthanides	Introduction,electronic configuration of Lanthanides
22.07.2020		Sanjay Jaiswal	CT		
23.07.2020	03	Priyanka Mishra	III	Molecular rearrangements and reactions	Benzil-Benzilic acid rearrangement
24.07.2020	04	Priyanka Mishra	III	Molecular rearrangements and reactions	Beckmann rearrangement
27.07.2020	03	Dr. S. K. Vernwal	IV	Separation Techniques	Paper Chromatography
27.07.2020	03	Dr. R. Sahay	I	Photochemistry	Grotthus-draper law, Stark-Einstein law, Jablonski diagram
28.07.2020	04	Dr. S. K. Vernwal	IV	Separation Techniques	Thin Layer Chromatography
28.07.2020	04	Dr. R. Sahay	I	Photochemistry	Qualitative description of fluorescence, phosphorescence
29.07.2020	02	Sanjay Jaiswal	II	Chemistry of Lanthanides	Atomic and ionic radii, Ionisation energy
30.07.2020		Sanjay Jaiswal	CT		
31.07.2020	05	Priyanka Mishra	III	Molecular rearrangements and reactions	Fries rearrangement
04.08.2020	05	Dr. S. K. Vernwal	IV	Separation Techniques	Column Chromatography
04.08.2020	06	Priyanka Mishra	III	Molecular rearrangements and reactions	Dieckmann reaction
05.08.2020	05	Dr. R. Sahay	I	Photochemistry	Non- radiative processes, quantum yield, photosensitized reaction
06.08.2020	06	Dr. R. Sahay	I	Photochemistry	Energy transfer processes
07.08.2020	03	Sanjay Jaiswal	II	Chemistry of Lanthanides	Calculation of magnetic moments and correlation with experimental data
08.08.2020		Sanjay Jaiswal	CT		
10.08.2020	06	Dr. S. K. Vernwal	IV	Separation Techniques	HPLC
10.08.2020	07	Priyanka Mishra	III	Molecular rearrangements and reactions	Claisen- Schmidt reaction
11.08.2020	07	Dr. S. K. Vernwal	IV	Separation Techniques	Ion-Exchange Chromatography
11.08.2020	08	Priyanka Mishra	III	Polymers	Type of polymerisation
13.08.2020	07	Dr. R. Sahay	I	Nuclear Chemistry	Fundamental particles and their classification, Nuclear forces
14.08.2020	08	Dr. R. Sahay	I	Nuclear Chemistry	Liquid drop and shell models of atomic nucleus, nuclear stability

17.08.2020	08	Dr. S. K. Vernwal	IV	Enzymes and Coenzymes	General features of enzymes and their active sites
17.08.2020	04	Sanjay Jaiswal	II	Chemistry of Lanthanides	Colour and spectral behaviour of Lanthanides series
18.08.2020	09	Dr. S. K. Vernwal	IV	Enzymes and Coenzymes	Ribozymes and Abzymes
18.08.2020		Sanjay Jaiswal	CT		
19.08.2020	09	Priyanka Mishra	III	Polymers	Mechanism of polymerisation
20.08.2020	10	Priyanka Mishra	III	Polymers	Preparation and use of terylene , nylon and Dynel
21.08.2020	09	Dr. R. Sahay	I	Nuclear Chemistry	Energy changes in nuclear reaction, Fission, The atom bomb, spallation and fusion reaction
22.08.2020	10	Dr. R. Sahay	I	Nuclear Chemistry	Hydrogen bomb, concept of nuclear cross-section, Radioactive equilibrium
24.08.2020	10	Dr. S. K. Vernwal	IV	Enzymes and Coenzymes	Enzyme nomenclature
24.08.2020	05	Sanjay Jaiswal	II	Chemistry of Lanthanides	Oxidation state and their stability, Ground state term symbols
25.08.2020	11	Dr. S. K. Vernwal	IV	Enzymes and Coenzymes	Units of enzyme activity
25.08.2020		Sanjay Jaiswal	ME		
26.08.2020	11	Priyanka Mishra	III	Polymers	Natural and synthetic rubber
27.08.2020	12	Priyanka Mishra	III	Dyes	Colour and constitutions
28.08.2020	11	Dr. R. Sahay	I	Nuclear Chemistry	Kinetics of radioactive decay, Applications of radioactivity-radioactive dating
01.09.2020	12	Dr. S. K. Vernwal	IV	Enzymes and Coenzymes	Factors affecting the enzyme activity
01.09.2020	12	Dr. R. Sahay	I	Nuclear Chemistry	Radioactive tracer technique, radioactivity in medicines, agriculture and research
02.09.2020	06	Sanjay Jaiswal	II	Chemistry of Lanthanides	Ability to form complexes and examples of complexes of different coordination number
03.09.2020		Sanjay Jaiswal	CT		
04.09.2020	13	Priyanka Mishra	III	Dyes	Classification of dyes
05.09.2020	14	Priyanka Mishra	III	Dyes	Methyl orange and Congo red
07.09.2020	13	Dr. S. K. Vernwal	IV	Enzymes and Coenzymes	Derivation of Michaelis-Menten equation
07.09.2020	13	Dr. R. Sahay	I	Surface Chemistry	Introduction, difference between Physical adsorption and chemisorptions
08.09.2020	14	Dr. S. K. Vernwal	IV	Enzymes and Coenzymes	Experimental determination of K_m and V_{max}
08.09.2020	14	Dr. R. Sahay	I	Surface Chemistry	Adsorption isotherms Langmuir adsorption isotherm and Freundlich adsorption isotherm
09.09.2020	07	Sanjay Jaiswal	II	Chemistry of Lanthanides	Occurrence and principle of separation of lanthanides
10.09.2020		Sanjay Jaiswal	CT		
11.09.2020	15	Priyanka Mishra	III	Dyes	Malachite green and Crystal violet
12.09.2020	16	Priyanka Mishra	III	Dyes	Malachite green and Crystal violet
14.09.2020	15	Dr. S. K. Vernwal	IV	Enzymes and Coenzymes	Physical significance of K_m , V_{max} and K_{cat}/K_m
14.09.2020	15	Dr. R. Sahay	I	Surface Chemistry	BET equation, Determination of surface area
15.09.2020	16	Dr. S. K. Vernwal	IV	Enzymes and Coenzymes	Competitive, Uncompetitive and Noncompetitive & Suicidal inhibitors
15.09.2020	16	Dr. R. Sahay	I	Solution and Colligative properties	Thermodynamic derivation of relation between molecular weight and elevation in boiling point and freezing point

16.09.2020	08	Sanjay Jaiswal	II	Chemistry of Lanthanides	Occurrence and principle of separation of lanthanides
18.09.2020		Sanjay Jaiswal	CT		
19.09.2020	17	Priyanka Mishra	III	Dyes	Phenolphthalein
21.09.2020	17	Dr. S. K. Vernwal	IV	Enzymes and Coenzymes	Brief description of Coenzymes
21.09.2020	18	Priyanka Mishra	III	Dyes	Fluorescence
22.09.2020	18	Dr. S. K. Vernwal	IV	Enzymes and Coenzymes	Function of Thiamine pyrophosphate (TPP)
22.09.2020	17	Dr. R. Sahay	I	Solution and Colligative properties	Experimental methods for determining various Colligative properties
23.09.2020	18	Dr. R. Sahay	I	Solution and Colligative properties	Abnormal molar mass, degree of dissociation and association
24.09.2020	09	Sanjay Jaiswal	II	Chemistry of Lanthanides	Occurrence and principle of separation of lanthanides
25.09.2020		Sanjay Jaiswal	ME		
26.09.2020	19	Dr. R. Sahay	I	Statistical Thermodynamics	Energy levels, Microstates, the Boltzmann factor
28.09.2020	19	Dr. R. Sahay	IV	Nucleic Acids	A general description of DNA and RNA
28.09.2020	20	Dr. R. Sahay	I	Statistical Thermodynamics	Partition function, Relation between partition functions and thermodynamic function
29.09.2020	20	Dr. R. Sahay	IV	Acids	Salient features of DNA and RNA
29.09.2020	10	Sanjay Jaiswal	II	Chemistry of Lanthanides	Occurrence and principle of separation of lanthanides
30.09.2020	11	Sanjay Jaiswal	II	Chemistry of Actinides	Introduction, electronic configuration of Actinides
01.10.2020	19	Priyanka Mishra	III	Polynuclear hydrocarbons	Chemistry of Anthracene
03.10.2020		Priyanka Mishra	CT		
05.10.2020	21	Dr. R. Sahay	IV	Nucleic Acids	DNA denaturation and renaturation, Effect of UV radiation on DNA
05.10.2020	21	Dr. R. Sahay	I	Statistical Thermodynamics	Translational, rotational and vibrational partition function
06.10.2020	22	Dr. R. Sahay	IV	Nucleic Acids	Elementary ideas of genetic code and recombinant technology
06.10.2020	22	Dr. R. Sahay	I	Quantum Mechanics	Black-body radiation, Planck's radiation law
07.10.2020	12	Sanjay Jaiswal	II	Chemistry of Actinides	Atomic and ionic radii, Ionisation energy
09.10.2020	13	Sanjay Jaiswal	II	Chemistry of Actinides	Oxidation state and their stability
10.10.2020	20	Priyanka Mishra	III	Polynuclear hydrocarbons	Chemistry of Anthracene
12.10.2020	23	Sanjay Jaiswal	IV	Role of Metals in Biological systems	Introduction
12.10.2020		Priyanka Mishra	CT		
13.10.2020	24	Sanjay Jaiswal	IV	Role of Metals in Biological systems	Fe in myoglobin and haemoglobin
13.10.2020	23	Dr. R. Sahay	I	Quantum Mechanics	Photoelectric effect, Compton effect, concept of wave motion
14.10.2020	24	Dr. R. Sahay	I	Quantum Mechanics	De Broglie hypothesis, the Heisenberg's uncertainty principle
15.10.2020	14	Sanjay Jaiswal	II	Chemistry of Actinides	Colour and absorption spectra of Actinides
16.10.2020	15	Sanjay Jaiswal	II	Chemistry of Actinides	Magnetic property of Actinides

17.10.2020	21	Priyanka Mishra	III	Polynuclear hydrocarbons	Chemistry of Phenanthrene
19.10.2020	25	Sanjay Jaiswal	IV	Role of Metals in Biological systems	Zn in Carboxypeptidase and Carbonicanhydrase
19.10.2020		Priyanka Mishra	CT		
20.10.2020	26	Sanjay Jaiswal	IV	Role of Metals in Biological systems	Cu in Plastocyanin and Hemocyanin
20.10.2020	25	Dr. R. Sahay	I	Quantum Mechanics	Difference between classical and quantum mechanics
21.10.2020	26	Dr. R. Sahay	I	Quantum Mechanics	Schrodinger wave equation for H- atom, Quantum number and their importance
22.10.2020	16	Sanjay Jaiswal	II	Chemistry of Actinides	Complex formation in Actinides
23.10.2020	17	Sanjay Jaiswal	II	Chemistry of Actinides	Chemistry of separation of Actinides
29.10.2020	22	Priyanka Mishra	III	Polynuclear hydrocarbons	Chemistry of Phenanthrene
31.10.2020		Priyanka Mishra	ME		
02.11.2020	27	Sanjay Jaiswal	IV	Role of Metals in Biological systems	Mg in Chlorophyll
02.11.2020	27	Dr. R. Sahay	I	Quantum Mechanics	Hydrogen like wave function , angular wave function
03.11.2020	28	Sanjay Jaiswal	IV	Errors and Evaluation	Introduction, Definition of terms mean and median
03.11.2020	28	Dr. R. Sahay	I	Quantum Mechanics	Molecular orbital theory, basic ideas- criteria for forming M.O. from A.O.
04.11.2020	18	Sanjay Jaiswal	II	Chemistry of Actinides	One synthesis each of Np to Lr
05.11.2020	19	Sanjay Jaiswal	II	Coordination Chemistry	Crystal Field Theory and its drawback
06.11.2020	23	Priyanka Mishra	III	Polynuclear hydrocarbons	Carcinogenic hydrocarbon
07.11.2020		Priyanka Mishra	CT		
09.11.2020	29	Sanjay Jaiswal	IV	Errors and Evaluation	Precision, standard deviation, relative standard deviation, and accuracy
09.11.2020	29	Dr. R. Sahay	I	Quantum Mechanics	Construction of M.O's by LCAO, H ₂ ⁺ ion , calculation of energy levels from wave function
10.11.2020	30	Sanjay Jaiswal	IV	Errors and Evaluation	Absolute error, and relative error
10.11.2020	30	Dr. R. Sahay	I	Quantum Mechanics	Physical picture of bonding and antibonding wave function
17.11.2020	31	Sanjay Jaiswal	IV	Errors and Evaluation	type of error in experimental data, determinate, indeterminate and gross
17.11.2020	20	Sanjay Jaiswal	II	Coordination Chemistry	d- orbital splitting in Td complex
18.11.2020	21	Sanjay Jaiswal	II	Coordination Chemistry	d- orbital splitting in Oh complex
19.11.2020	24	Priyanka Mishra	III	Heterocycles	Chemistry of Indole
21.11.2020		Priyanka Mishra	ME		
23.11.2020	32	Sanjay Jaiswal	IV	Errors and Evaluation	Sources of errors and effect upon the analytical results
23.11.2020	31	Dr. R. Sahay	I	Quantum Mechanics	Concept of sigma and pi orbitals
24.11.2020	33	Sanjay Jaiswal	IV	Errors and Evaluation	Methods of for reporting analytical data
24.11.2020	32	Dr. R. Sahay	I	Quantum Mechanics	Valence bond model of H ₂ , comparison of M.O. and V.B. models
26.11.2020	22	Sanjay Jaiswal	II	Coordination Chemistry	d- orbital splitting in Square planer complex

27.11.2020	23	Sanjay Jaiswal	II	Coordination Chemistry	Dq and factor affecting its magnitude
28.11.2020	25	Priyanka Mishra	III	Heterocyclic	Chemistry of Quinoline
01.12.2020	34	Sanjay Jaiswal	IV	Errors and Evaluation	Statistical evaluation of data
01.12.2020		Priyanka Mishra	CT		
02.12.2020	24	Sanjay Jaiswal	II	Coordination Chemistry	Calculation of CFSC for d1 to d9
03.12.2020	25	Sanjay Jaiswal	II	Coordination Chemistry	Magnetic property on the basis of CFT
07.12.2020	35	Sanjay Jaiswal	IV	Errors and Evaluation	indeterminate errors, uses of Statistics
07.12.2020	26	Priyanka Mishra	III	Heterocycles	Chemistry of Isoquinoline
08.12.2020	36	Mrs.Priyanka Mishra	IV	Gravimetric analysis	Introduction of Gravimetric Analysis
08.12.2020	27	Priyanka Mishra	III	Heterocycles	Chemistry of Isoquinoline
09.12.2020	33	Dr. R. Sahay	I	Spectroscopy	Introduction , Electromagnetic radiation , regions of the spectrums
11.12.2020		Dr. R. Sahay	CT		
12.12.2020	26	Sanjay Jaiswal	II	Coordination Chemistry	Type of electronic transition ,Selection rule, charge transfer
14.12.2020	37	Mrs.Priyanka Mishra	IV	Gravimetric analysis	Precipitation from homogeneous medium and purity of precipitate
14.12.2020	27	Sanjay Jaiswal	II	Coordination Chemistry	Electronic spectra of $(\text{Ti}(\text{H}_2\text{O})_6)^{3+}$ and $(\text{Cu}(\text{H}_2\text{O})_6)^{2+}$
15.12.2020	38	Mrs.Priyanka Mishra	IV	Volumetric analysis	Co-precipitation and Post-precipitation
15.12.2020	28	Priyanka Mishra	III	Amino acids, peptides and proteins	Classification of amino acid
16.12.2020	29	Priyanka Mishra	III	Amino acids, peptides and proteins	Synthesis of amino acids
17.12.2020	34	Dr. R. Sahay	I	Spectroscopy	Basic features of different spectrometers
18.12.2020		Dr. R. Sahay	CT		
21.12.2020	39	Mrs.Priyanka Mishra	IV	Volumetric analysis	Washing, ignition, contamination and their removal
21.12.2020	28	Sanjay Jaiswal	II	Metal Carbonyls	Introduction of Ligands behaviour of Carbonyl
22.12.2020	40	Mrs.Priyanka Mishra	IV	Volumetric analysis	Estimation of Ba as BaSO_4
22.12.2020	29	Sanjay Jaiswal	II	Metal Carbonyls	General method of preparation
23.12.2020	30	Priyanka Mishra	III	Amino acids, peptides & proteins	Synthesis of polypeptide
24.12.2020	31	Priyanka Mishra	III	Amino acids, peptides & proteins	Determination of structure of polypeptide
26.12.2020	35	Dr. R. Sahay	I	Spectroscopy	Statement of the Born- Oppenheimer approximation, degrees of freedom
28.12.2020	41	Dr. R. Sahay	IV	Volumetric analysis	General term used in Volumetric analysis
28.12.2020		Dr. R. Sahay	ME		
29.12.2020	42	Dr. R. Sahay	IV	Volumetric analysis	Principles of Acid –Base titration
29.12.2020	30	Sanjay Jaiswal	II	Metal Carbonyls	Preparation of structure of binary carbonyls of V , Cr and Mn
30.12.2020	31	Sanjay Jaiswal	II	Metal Carbonyls	Structure of Fe, Co and Ni carbonyls

31.12.2020	32	Priyanka Mishra	III	Amino acids, peptides & proteins	Classification of protein
01.01.2021	33	Priyanka Mishra	III	Amino acids, peptides & proteins	Structure of protein
02.01.2021	36	Dr. R. Sahay	I	Rotational Spectrum	Diatomic molecules, Energy levels of a rigid rotor, selection rules
04.01.2021	43	Dr. R. Sahay	IV	Volumetric analysis	Redox titration, Precipitation titration
04.01.2021		Dr. R. Sahay	CT		
06.01.2021	32	Sanjay Jaiswal	II	Metal Nitrosyls	Ligands behaviour of NO(NO ⁺ , NO ⁻) and bridging ligands
07.01.2021	33	Sanjay Jaiswal	II	Metal Nitrosyl	Preparation and structure of Nitrosyls of Cr, Fe and Ru
08.01.2021	34	Priyanka Mishra	III	Elimination reaction	E1 reaction
09.01.2021	35	Priyanka Mishra	III	Elimination Reactions	E1 reaction
11.01.2021	44	Dr. R. Sahay	IV	Volumetric analysis	Iodimetry and iodometry, complexometric titration
11.01.2021	37	Dr. R. Sahay	I	Spectral Intensity	Maxwell- Boltzmann distribution , determination of bond length, qualitative description of non rigid rotor, isotope effect
12.01.2021	45	Dr. R. Sahay	IV	Volumetric analysis	Use of EDTA for the determination of Ca ²⁺ and Mg ²⁺ , Hardness of water, Metal ion indicators
12.01.2021		Dr. R. Sahay	CT		
13.01.2021	34	Sanjay Jaiswal	II	Metal Nitrosyls	Corbonylnitrosyls and Cyanonitrosyls
16.01.2021	35	Sanjay Jaiswal	II	Environmental Chemistry	Earth atmosphere and its components
18.01.2021	46	Priyanka Mishra	IV	Biological membranes	General features and fluid mosaic model
18.01.2021	36	Priyanka Mishra	III	Elimination Reactions	E2 reaction
19.01.2021	47	Priyanka Mishra	IV	Biological membranes	Diffusion and facilitated diffusion
19.01.2021	37	Priyanka Mishra	III	Elimination Reactions	E2 reaction
20.01.2021	38	Dr. R. Sahay	I	Vibrational Spectrum	Infrared spectrum: Energy levels of simple harmonic oscillation , selection rules, pure vibrational spectrum
21.01.2021		Dr. R. Sahay	CT		
22.01.2021	36	Sanjay Jaiswal	II	Environmental Chemistry	Type of pollutants and their sources
23.01.2021	37	Sanjay Jaiswal	II	Environmental Chemistry	Green house effect and Global warming
25.01.2021	48	.Priyanka Mishra	IV	Biological membranes	Active transport and Donnan membrane equilibria
25.01.2021	38	Priyanka Mishra	III	Elimination Reactions	E1CB reaction
27.01.2021	39	Priyanka Mishra	III	Elimination Reactions	Distinction between E1, E2 and E1CB reaction
28.01.2021	39	Dr. R. Sahay	I	Vibrational Spectrum	Intensity, determination of force constant and qualitative relation of force constant and bond energies
29.01.2021		Dr. R. Sahay	ME		
30.01.2021	38	Sanjay Jaiswal	II	Environmental Chemistry	Acid rain , Ozone layer depletion
Extra*	40	Priyanka Mishra	III	Reaction Intermediate	Carbocation (classiacal and non classical carbocation)
*	41	Priyanka Mishra	III	Reaction intermediates	Carbanions and free radicals

*	42	Priyanka Mishra	III	Reaction intermediates	Carbene and nitrene
*	43	Priyanka Mishra	III	Reaction intermediates	Benzyne
*	44	Priyanka Mishra	III	Reaction intermediates	Benzyne
*	40	Dr. R. Sahay	I	Vibrational Spectrum	Effect of anharmonic motion and isotope on the spectrum, Idea of vibrational frequencies of different functional groups.
*	41	Dr. R. Sahay	I	Vibrational Spectrum	Effect of anharmonic motion and isotopes on the spectrum
*	42	Dr. R. Sahay	I	Vibrational Spectrum	Idea of vibrational frequencies of Raman spectrum
*	43	Dr. R. Sahay	I	Vibrational Spectrum	Concept of polarisability , condition of Raman active vibrations
*	44	Dr. R. Sahay	I	Vibrational Spectrum	Mutual exclusion principle