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कक्षा : बी.एस-सी. भाग-तीन	पाठ्यक्रम योजना : सत्र २०१५-२०१६	विषय : रसायनशास्त्र

दिनांक	व्याख्यान	प्राध्यापक का नाम	प्रश्नपत्र	अध्याय	शीर्षक
16.07.2015	1	Dr. Ram Sahay	I	Photochemistry	Thermo chemical and photochemical
					reactions, law of photo chemistry
20.07.2015	2	Dr. Ram Sahay	I	Photochemistry	Photophysical process, Jablonski diagram
20.07.2015	1	Dr. Ram Sahay	IV	Separation technique	Principle and analytical application
21.07.2015	1	Priyanka Mishra	III	Molecular rearrangement	Pinacol pinacolone rearrangement
				& name reaction	
21.07.2015	2	Dr. Ram Sahay	IV	Separation technique	Solvent extraction
22.07.2015	2	Priyanka Mishra	III	Molecular rearrangement &	Benzil benzil acid rearrangement
				name reaction	
23.07.2015	1	P. K. Verma	II	Lanthnides & actinides	Introduction, electronic configuration
24.07.2015		P. K. Verma		***Class Teaching***	
25.07.2015	3	Dr. Ram Sahay	I	Photochemistry	Potential energy curve, quantum efficiency,
					reason for low & high quantum yield
27.07.2015	4	Dr. Ram Sahay	I	Photochemistry	Photosensitised reaction
27.07.2015	3	Dr. Ram Sahay	IV	Separation technique	Chromatography (Thin layer, paper)
28.07.2015	3	Priyanka Mishra	III	Molecular rearrangement &	Beekmann rearrangement
				name reaction	
28.07.2015	4	Dr. Ram Sahay	IV	Separation technique	Column Chromatography
29.07.2015	4	Priyanka Mishra	III	Molecular rearrangement &	Fries rearrangement
				name reaction	
30.07.2015	2	P. K. Verma	II	Lanthanides and actinides	Atomic & conic radii, lanthanids contract
31.07.2015		P. K. Verma		***Class Teaching***	
01.08.2015	5	Dr. Ram Sahay	I	Nuclear chemistry	Fundamental particals, Nuclear models
03.08.2015	6	Dr. Ram Sahay	I	Nuclear chemistry	Liquid drop model, nuclear shell model
03.08.2015	5	Dr. Ram Sahay	IV	Separation technique	H.P.L.C., ion exchange
04.08.2015	5	Priynka Mishra	III	Molecular rearrangement & name reaction	Claizen-schmidt reaction
04.08.2015	6	Dr. Ram Sahay	IV	Enzymes and coenzymes	General features of anzyme & their active sites
05.08.2015	6	Priyanka Mishra	III	Molecular rearrangement &	Diecxmann reaction
				name reaction	

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06.08.2015	3	P. K. Verma	II	Lanthanides and actinides	Dxidation state and their stablity
07.08.2015		P. K. Verma		***Class Teaching***	
08.08.2015	7	Dr. Ram Sahay	I	Nuclear chemistry	Nuclear force, nuclear fission, fusion and its
					application
10.08.2015	8	Dr. Ram Sahay	I	Nuclear chemistry	Spallation, nuclear cross seetion,radioacfivity
10.08.2015	7	Dr. Ram Sahay	IV	Enzymes and coenzymes	Ribozymes & Abzymes
11.08.2015	7	Priyanka Mishra	III	Polymers	types of polyrarization
11.08.2015	8	Dr. Ram Sahay	IV	Enzymes and coenzymes	Enzymes nomenclature
12.08.2015	8	Priyanka Mishra	III	Polymers	mechanism of polymaization
13.08.2015	4	P. K. Verma	II	Lanthanides & actinides	Consequences of hanthanides contraction
14.08.2015		P. K. Verma		***Class Teaching***	
17.08.2015	9	Dr. Ram Sahay	I	Nuclear chemistry	application of radioactivity
17.08.2015	9	Dr. Ram Sahay	IV	Enzymes and coenzymes	Units of enzyme activity
18.08.2015	10	Dr. Ram Sahay	I	Surface Chemistry	Introduction, Physical & chemical adsorption
18.08.2015	10	Dr. Ram Sahay	IV	Enzymes and coenzymes	Derivation of Michaelis Menter-equation
20.08.2015	9	Priyanaka Mishra	III	Polymers	Mechanism of polymerization
21.08.15	10	Priyanaka Mishra	III	Polymers	Mechanism of polymerization
22.08.15	5	P. K. Verma	II	Lanthanides & Actinides	Colom & Spectral behaviour Lx^{3+}ions
23.08.15		P.K. Verma		Monthly evaluation	
24.08.15	11	Dr. Ram Sahay	I	Surface chemistry	Freunddick & Langrnier adsorption isotherm
24.08.15	11	Dr. Ram Sahay	IV	Enzymes & Coenzymes	Experimental determination of K_m & V_{max}
25.08.15	12	Dr. Ram Sahay	I	Surface chemistry	Types of adsorption isothem, B.E.T. equation
					determination of surface area
25.08.15	12	Dr. Ram Sahay	IV	Enzyme & coenzymes	Physical significance of K_m, V_{max} and K_{cat}/K_m
26.08.15	11	Priyanka Mishra	III	Polymer	Prefaration & use of teflon, Terrline nylon and dynes
27.08.15	12	Priyanka Mishra	III	Polymar	Natural & synthetic supper
31.08.15	6	P. K. Verma	II	Lanthanides & actinids	Ground state term symbols
31.08.15	13	Dr. Ram Sahay	IV	Enzymes & coenzymes	Competitive uncompetitive, non-competitive
					and suidel inhibitors
01.09.15	-	P.K.Verma	-	Class Teaching	

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01.09.15	-	P.K.Verma	-	Class Teaching	
01.09.15	14	Dr. Ram Sahay	IV	Enzymes & Coenzymes	Brief description of co-enzyme
03.09.15	13	,, ,, ,,	I	Solution & Colligative properties	introduction thermodynamic derivation of elevation in boiling point & moleculan wt
04.09.15	14	,, ,, ,,	I	,, ,, ,,	introduction thermodynamic desivation of
					depression in freozing point & moleculan wt
07.09.15	13	Priyanka Mishra	III	Dyes	Colour & Coustitution
07.09.15	15	DR.Ram Sahay	IV	Enzymes & Co-enzymes	Function of thamine pyrophosphate
08.09.15	14	Priyanka Mishra	III	Dyes	Classification of dyes
08.09.15	16	Dr.Ram Sahay	IV	Nuclic acid	A general description of DNA &Rna
09.09.15	7	P.K.Verma	II	Lanthanides & Actinides	Magneticmomant of lanthinides
10.09.15	-	,, ,, ,,	-	Class Teaching	
11.09.15	15	Dr.Ram Sahay	I	Solution & collegative	Experimental methods for deermining varioun
				properties	collegative properties
12.09.15	16	,, ,, ,,	I	,, ,, ,,	Vant hoff factor (abnormal moleculen mass)
14.09.15	15	Priyanka Mishra	III	Dyes	Methyl orange& cango red
14.09.15	17	Dr.Ram Sahay	IV	Nuclic acid	Silent features of structure of DNA & RNA
15.09.15	16	Priyanka Mishra	III	Dyes	Malachite green & crystal violet
15.09.15	18	Dr. Ram Sahay	IV	Nuclic acid	DNA denaturation & renaturation,effect of
16.09.15	8	P.K.Verma	II	lanthanides & actinides	UV radition on DNA Lanthanides- ability to form copmlexus
18.09.15	-	,, ,,	-	Class Teaching	
19.09.15	17	Dr. Ram Sahay	I	solution & colligative propertion	Numerical Problems
21.09.15	18	,, ,, ,,	I	Stastistical Thermodynamics	Introduction, partition function
21.09.15	19	Dr.Ram Sahay	IV	Nuclic acid	Elementory idea of genitic code &
					Recombinat DNA Technology
22.09.15	17	Priyanka Mishra	III	Dyes	Phenolphthaline & fluorescene
22.09.15	20	Dr.Ram Sahay	IV	Role of metal in biological	Introduction, Role of Fe, Mg, Cu, & Zn
				system	

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23.09.15	18	Priyanka mishra	III	Polynuclear hydrocorbon	Chemistry of anthracene
24.09.15	9	P.K.Verma	II	Lanthanides & actinides	Occurence & principle of Sepration of
					lanthanides
26.09.15	-	,, ,, ,,	-	Monthly Test	
28.09.15	19	,, ,, ,,	I	Statistical Thermodynamics	Trasnlational rotational partition function
28.09.15	21	Dr. Ram Sahay	IV	Role of metle in biological	Fe in myoglobin & hemoglobin
				Systems	
29.09.15	20	,, ,, ,,	I	Statistical Thermodynamics	Vibraional partition function
29.09.15	22	Dr. Ram Sahay	IV	Role of metle in biological	Cu in plastocyanin & hemocyanin
				Systems	
01.10.15	19	Priyanka Mishra	III	Polynuclear Hydrocarbon	Chemistry of anthracene
03.10.15	20	Priyanka Mishra	III	,, ,, ,,	Chemistry of phenanthrene
05.10.15	10	P.K.verma	II	Lanthanides & Actinides	Uses of Lanthanides & their compound
05.10.15	23	Dr. Ram sahay	IV	Role of metal in biological	Zn in Carbony peptidase + carbonic
				systems	anhybrase
06.10.15	-	P.K.Verma	-	Class Teaching	
06.10.15	24	Dr. Ram Sahay	IV	Role of metal in biological	Mg in chlorophyll
				system	
07.10.15	21	,, ,, ,,	I	Statistical thermodynamics	Relationship b/w thermodynamic property and partition function
08.10.15	22	,, ,, ,,	I	,, ,, ,,	,, ,, ,,
09.10.15	21	Priyanka Mishra	III	Polynuclear Hydrocarbon	Chemistry of phenonthrene
10.10.15	22	,, ,, ,,	III	,, ,, ,,	Carcinogenic hydro carbon
14.10.15	11	P.K.Verma	II	Lanthanides & Actinides	Introduction & electronic Configuration of
					Actinides
15.10.15	-	,, ,, ,,	-	Class Teaching	
16.10.15	23	Dr. Ram Sahay	I	Quantum Mechanics	Black body radition , Plank's radition law
					compton effect

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17.10.15	24	,, ,, ,,	I	,, ,, ,, ,,	Photo electric effect, concept of wave motion, de-Broglic hypothesis
19.10.15	23	Priyanka Mishra	III	Hetrocycles	Chemistry of indole
19.10.05	25	Dr. P.K.Rao	IV	Errors & evaluation	Introduction , Mean & Median
28.10.15	24	Priyanka Mishra	III	Hetrocycle	Chemistry of Quinoline
29.10.15	12	P.K.Verma	II	Lanthanides & Actinides	Atomic & Ionic radlie, Ionization energy of Actinides
30.10.15	-	,, ,, ,,	-	Monthly Test	
31.10.15	25	Dr.Ram Sahay	I	Quantum Machanics	Heisen bergs uncertainity principles, difference b/n classical and quantum mechanics
02.11.15	26	Dr. Ram Sahay	I	Ouantum Machanics	Description of Schrodinger wave equation and its phycical significance
02.11.15	26	Dr.P.K.Rao	IV	Errors & Evaluation	Accuracy & precision
03.11.15	25	Priyanka Mishra	III	Hetrocycle	Chemistry of Isoquinoline
03.11.15	27	Dr.P.K.Rao	IV	Errors & Evaluation	Significant figures, absolute error, relative error
04.11.15	26	Priyanka Mishra	III	Amino Acide peptides and proteins	Classification of amino acide
05.11.15	13	P.K.Verma	II	Lanthanides & actinides	Oxidation slote and their stability
06.11.15	-	,, ,, ,,	-	Class Teaching	
07.11.15	27	Dr.Ram Sahay	I	Quantum mechanics	Hamiltonion operator , and importance of Sehrodinger wave equation
14.11.15	28	,, ,, ,,	I	,, ,, ,,	Schrodinger wave equation for H-atom
16.11.15	27	Priyanka Mishra	III	Amino acide Peptides and proteins	Classification of amino acide
16.11.15	28	Dr.P.K.Rao	IV	Errors & Evalution	Application of statisties
18.11.15	28	Priyanka Mishra	III	Amino Acide Peptides & proteins	Synthesis of amino acide
19.11.15	14	P.K.Verma	II	Lanthanides & Actinides	Colour & Absorption spectra of Actinides
20.11.15	-	,, ,, ,,	-	Class Teaching	

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21.11.15	29	Dr.Ram Sahay	I	Quantum Mechanics	Radial and Angular wave function
23.11.15	30	,, ,, ,,	I	,, ,, ,, ,,	Quantum numbers & their importance
23.11.15	29	Dr.P.K.Rao	IV	Errors & Evalution	Types of Error
24.11.15	29	Priyanka Mishra	III	Amini Acide, Peptides &	Synthesis of polypeptides
				Protein	
24.11.15	30	Dr.P.K.Rao	IV	Error & Evalution	Determinate, lendeterminate and Gross Error
25.11.15	30	Priyanka Mishra	III	Amino Acide, peptides,	Determination of structure of polypeptides
				& protein	
26.11.15	15	P.K.Verma	II	Lanthanides &Actinides	Magnetic properties of actides
27.11.15	-	,, ,, ,,	-	Monthly Test	
28.11.15	31	Dr.Ram Sahay	I	Quantum Mechanics	M.O.T.,Criteria for foming M.O. from A.O.by
30.11.15	32	,, ,, ,,	I	,, ,, ,,	LCAD method H2+ con ,Calculation of energy levels form
					wave functions
30.11.15	31	Dr.PK. Rao	IV	Errors & Evalution	Source of errors & effect upon analytical
					results
01.12.15	31	Priyanka Mishra	III	Amino Acide Peptide	Classification of Protein
				& protein	
01.12.15	32	Dr.P.K. Rao	IV	Errors & evalution	Uses of statistics, statiscal evalution of data
03.12.15	32	Priyanka Mishra	III	Amino acides, pepides	Proteins denaturation & renaturation
				& ptotein	
07.12.15	16	P.K.Verma	II	Lanthanides & Actinides	Complex formation in actinides
07.12.15	33	Dr.P.K.Rao	IV	Grarimetric analysis	Introduction & principle
08.12.15	-	P.K.Verma	-	Class Teaching	
08.12.15	34	Dr.P.K.Rao	IV	Gravimetric analysis	Variom steps inrolved in grarimetric analysis
09.12.15	33	Dr. Ram sahay	I	Quantum mechanics	Physical picture of bonding and antibonding
					wave function
11.12.15	34	Dr.Ram Sahay	I	,, ,, ,,	Concept of 6,6*, π, π* orbitals & their
					characteristic

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12.12.15	33	Priyanka Mishra	III	Amino acide ,peptides & proteins	Structure of proteins
14.12.15	34	,, ,, ,,	III	Elimination Recation	E , Reaction
14.12.15	35	Dr.P.K. Rao	IV	Grarimetric analysis	Estimation of BA as BaSo4
15.12.15	17	P.K. Verma	II	Lanthanides & actinides	Chemistry of saparation of Np, Pu & Am pom U
15.12.15	36	Dr.P.K. Rao	IV	Grarimetric Analysis	Co precipitation & Post-pricipitation
16.12.15	-	-	-	Class Teaching	
17.12.15	35	Dr.Ram Sahay	I	spectroscopy	Electromegnaic spectrum, basic difference b/w spectrometers
18.12.15	36	,, ,, ,,	I	,, ,, ,,	Born-openneimar approximation, degrees of freedom, Rotational spectrum
19.12.15	35	Priyanka Mishra	III	Eliminationeactions	E 1- reactions
21.12.15	36	,, ,, ,,	III	,, ,, ,,	E 2- recations
21.12.15	37	Dr.P.K. Rao	IV	Volumatric Analysis	General Terms used in volumetric analysis
22.12.15	18	Dr. P.K Verma	II	Lanthanides & actinides	Oneynthesis each of Np - Lr
22.12.15	38	Dr.P.K. Rao	IV	Volumatric Analysis	Principles of acid-base titration
28.12.15	-	P.K.Verma	-	Monthly Test	
29.12.15	37	Dr.Ram Sahay	I	Spectroscopy	Energy levels ,intensity, population distribution, determination of bond length
29.12.15	39	Dr.P.K.Rao	IV	Volumetric analysis	Redox tipation & percipitation tipation
30.12.15	38	Dr.Ram Sahay	I	Spectroscopy	Non-rigid rotor, isotopic effect, energy levels of simple harmonic oscillrtor
31.12.15	37	Priyanka Mishra	III	Elimination Recations	E 2 -recations
01.01.16	38	Priyanka Mishra	III	Elimination Recation	E1 CB recation
02.01.16	19	P.K. Verma	II	Co-ordination Chemistry	CFT and its drawback
04.01.16	-	,, ,, ,,	-	Class Teaching	
04.01.16	40	Dr. P.K.Rao	IV	Volumetric Analysis	Iodimetry & Iodometry, complexomets tipation
06.01.16	39	Dr Ram Sahay	I	Spectroscopy	Pure Vibrational spectrum instensity, force

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					constant anhasenomic vibration & effict of
					isotope
07.01.16	40	,, ,, ,,	I	,, ,, ,,	Raman spectrum, polarizability, quantum and
					classical approacl
08.01.16	39	Priyanka Mishra	III	Elimination Reaction	Distirction b/w E 1,E 2,& E 1 CB reaction
09.01.16	40	,, ,, ,,	III	Reaction Intermediates	Casho eations (classial & non classial)
11.01.16	20	P.K.Verma	II	Co-ordination chemistry	d-orbital splitting in tetrahedral field
11.01.16	41	Dr.P.K.Rao	IV	Volumetric Analysis	Use of EDTA for the determination of Ca++
					&Mg++ and hardness of water
12.01.16	-	P.K.Verma	-	Class Teaching	
12.01.16	42	Dr.P.K.Rao	IV	Volumetric Analysis	Types of EDTA titrations, metal ion indication
13.01.16	41	Dr.Ram Sahay	I	Spectroscopy	Pure vibrational & rotational Raman
16.01.16	42	,, ,, ,,	I	,, ,, ,,	spectrum Mutual exclusion principle
18.01.16	41	Priyanka Mishra	III	Recation Intermediate	Carbanions & free radicals
18.01.16	43	P.K.Rao	IV	Biological membranes	General Features and fluid mosaic model
19.01.16	42	Priyanka Mishra	III	Reaction Intermediates	Carbenes & Nitrenes
19.01.16	44	P.K.Rao	IV	Biological Membranes	Diffussion, faciliated, diffussion and active
					transport
20.01.16	21	P.K.Verma	II	Co-ordination Chemistry	d-orbital splitting in octa hedral & square
21.01.16	-	,, ,, ,,	-	Class Teaching	planer field
22.01.16	43	Dr.Ram Sahay	I	Spectroscopy	Potential energy curve, Frankcondon principle
					selection rule
23.01.16	44	,, ,, ,,	I	Spectroscopy	6, π and n moleculan orbital
25.01.16	43	Priyanka Mishra	III	Recation Intermediate	Benzymes
25.01.16	45	Dr.P.K.Rao	IV	Biological Membrane	Donnan membrane equilibria &their
					energy levels
27.01.16	22	P.K.Verma	II	Co-ordination Chemistry	Dg &factors influencing its magnitude
28.01.16	23	,, ,, ,,	II	,, ,, ,,	Calculation of CFSE for d1 to d9 weak

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					& strong field complexes
29.01.16	-	,, ,, ,,	-	Monthly Test	
30.01.16	24	,, ,, ,,	II	Co-ordination chemistry	Magnetic propertion on the basis of CFT
					type of electronic tramition
Extra					
-	25	P.K.Verma	II	Co-ordination chemistry	Selection rule , change transfer
					spectrochemical series, spectroscopic
					ground state terms for d1 to d10 systems
	26	,, ,, ,,	II	,, ,, ,,	Electronic spectra of [T1(H2O)]+++ and
					[Cu(H2O)6]++
	27	,, ,, ,,	II	Metal Carbonyls	Introduction ligand behaviour of Co
	28	,, ,, ,,	II	,, ,, ,,	General Method of preparation, representation
					of structures of binary carbonyls
					of V, Cr, Mn, Fe, Co,& Ni
	29	,, ,, ,,	II	Metal Nitrosyls	Ligand behaviour of NO(No+,NO- and bridg
					ing NO)
	30	,, ,, ,,	II	,, ,, ,,	Prepration & structure of nitrosyls of Cr,Fe
					& Ru
	31	,, ,, ,,	II	,, ,, ,,	Carbonial nitrosyls & cyano nitrosyls
	32	,, ,, ,,	II	Environmental Chemistry	Eart atmosphere and its components
	33	,, ,, ,,	II	,, ,, ,,	Types of pollutants & their source
	34	,, ,, ,,	II	,, ,, ,,	Green house effect & global warming
	35	,, ,, ,,	II	,, ,, ,,	Acid rains & ozone layerdepletion