

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

कक्षा : बी.एस-सी. भाग-तीन			पाठ्यक्रम योजना : सत्र २०१४-२०१५		विषय : रसायनशास्त्र
दिनांक	व्याख्यान	प्राध्यापक का नाम	प्रश्नपत्र	अध्याय	शीर्षक
16.07.2014	1	Dr. Shalini Singh	I	Photochemistry	Thermo chemical and photochemical reactions, law of photochemistry
17.07.2014	2	Dr. Shalini Singh	I	Photochemistry	Photophysical process, Jablonski diagram
18.07.2014	1	Priyanka Mishra	III	Molecular rearrangement & name reaction	Pinacol pinacolone rearrangement
19.07.2014	2	Priyanka Mishra	III	Molecular rearrangement & name reaction	Benzil benzilic acid rearrangement
21.07.2014	1	P. K. Verma	II	Lanthanides & Actinides	Introduction electronic configuration
21.07.2014	1	Dr. Ram Sahay	IV	Separation technique	Principle and analytical application
22.07.2014	2	P. K. Verma	II	Lanthanides & actinides	Lanthanides-Atomic and ionic radii, lanthanides contraction
22.07.2014	2	Dr. Ram Sahay	IV	Separation technique	Solvent extraction
23.07.2014	3	Dr. Shalini Singh	I	Photochemistry	Potential energy curve, quantum efficiency, reason for low & high quantum yield
24.07.2014	4	Dr. Shalini Singh	I	Photochemistry	Photosensitised reaction
26.07.2014	3	Priyanka Mishra	III	Molecular rearrangement & name reaction	Beckmann rearrangement
28.07.2014	4	Priyanka Mishra	III	Molecular rearrangement & name reaction	Fries rearrangement
28.07.2014	3	Dr. Ram Sahay	IV	Separation technique	Chromatography (Thin layer, paper)
30.07.2014	3	P. K. Verma	II	Lanthanides and actinides	Lanthanides-oxidation state and their stability
31.07.2014	4	P. K. Verma	II	Lanthanides and actinides	Consequences of lanthanide contraction
02.08.2014	5	Dr. Shalini Singh	I	Nuclear chemistry	Fundamental particles nuclear models
04.08.2014	6	Dr. Shalini Singh	I	Nuclear chemistry	Liquid drop model, nuclear shell model
04.08.2014	4	Dr. Ram Sahay	IV	Separation technique	Column chromatography
05.08.2014	5	Priyanka Mishra	III	Molecular rearrangement & name reaction	Claisen-Schmid reaction
05.08.2014	5	Dr. Ram Sahay	IV	Separation technique	H.P.L.C., ion exchange
06.08.2014	6	Priyanka Mishra	III	Molecular rearrangement & name reaction	Deckmann reaction

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07.08.2014	5	P. K. Verma	II	Lanthanides and actinides	Colour and spectral behaviour of Ln^{3+} ions
08.08.2014		P. K. Verma		Class Teaching	
09.08.2014	7	Dr. Shalini Singh	I	Nuclear chemistry	Nuclear forces, nuclear fission, fusion, its application
11.08.2014	8	Dr. Shalini Singh	I	Nuclear chemistry	Spallation, nuclear cross section radioactivity
11.08.2014	6	Dr. Ram Sahay	IV	Enzymes and coenzymes	General features of enzymes and their active site
12.08.2014	7	Priynka Mishra	III	Polymers	Types of polymerisation
12.08.2014	7	Dr. Ram Sahay	IV	Enzymes and coenzymes	Ribozymes and abzymes
13.08.2014	8	Priyanka Mishra	IV	Polymers	Mechanism of polymerisation
14.08.2014	6	P. K. Verma	II	Lanthanides and actinides	Ground state term symbols
16.08.2014		P. K. Verma		Class Teaching	
19.08.2014	9	Dr. Shalini Singh	I	Nuclear chemistry	Application of radioactivity
19.08.2014	8	Dr. Ram Sahay	IV	Enzymes and coenzymes	Enzymes nomenclature
20.08.2014	10	Dr. Shalini Singh	I	Surface chemistry	Introduction, physical and chemical adsorption
21.08.2014	9	Priyanka Mishra	III	Polymers	Mechanism of polymerization
22.08.2014	10	Priyanka Mishra	III	Polymers	Preparation & uses of teflon, terylene, nylon & dynel
23.08.2014	7	P. K. Verma	II	Lanthanides and actinides	Magnetic moments of lanthanides
25.08.2014				Monthly Evaluation	
25.08.2014	9	Dr. Ram Sahay	IV	Enzymes and coenzymes	Unit of enzymes activity
26.08.2014	11	Dr. Shalini Singh	I	Surface chemistry	Freundlich and Langmuir adsorption isotherm
26.08.2014	10	Dr. Ram Sahay	IV	Enzymes and coenzymes	Derivation of Michaelis menten equation
27.08.2014	12	Dr. Shalini Singh	I	Surface chemistry	Types of adsorption isotherm B.E.T. equation determination of surface area
28.08.2014	11	Priyanka Mishra	III	Polymers	Natural & synthetic rubber
29.08.2014	12	Priyanka Mishra	III	Dyes	Colour and constitution
30.08.2014	8	P. K. Verma	II	Lanthanides & actinides	Lanthanides ability to form complexes
01.09.2014		P. K. Verma		Class Teaching	
01.09.2014	11	Dr. Ram Sahay	IV	Enzymes and coenzymes	Experimental determination of K_m and V_{max}
02.09.2014	13	Dr. Shalini Singh	I	Solutions and collgative property	Introduction, thermodynamic derivation of elevation in boiling point & molecular weight

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02.09.2014	12	Dr. Ram Sahay	IV	Enzymes and coenzymes	Physical significance of K_m and V_{max} , significance of K_{cat}/K_m
03.09.2014	14	Dr. Shalini Singh	I	Solutions and colligative property	Introduction, thermodynamic, derivation of depression in freezing point & molecular weight
04.09.2014	13	Priyanaka Mishra	III	Dyes	Classification of dyes
05.09.2014	14	Priyanka Mishra	III	Dyes	Methyl orange & congo red
06.09.2014	9	P. K. Verma	II	Lanthanides and actinides	Occurrence and principle of separation of lanthanides
10.09.2014		P.K. Verma	II	Class Teaching	
12.09.2014	15	Dr. Shalini Singh	I	Solution and colligative property	Thermodynamic derivation of depression in freezing point and molecular weight
13.09.2014	16	Dr. Shalini Singh	I	Solution and colligative property	Experimental methods
16.09.2014	15	Priyanka Mishra	III	Dyes	Malachite green & crystal violet
16.09.2014	13	Dr. Ram Sahay	IV	Enzymes and coenzymes	Competitive, uncompetitive, non-competitive and suicidal inhibitors
18.09.2014	16	Priyanka Mishra	III	Dyes	Phenolphthaleine & fluoresceine
19.09.2014	10	P. K. Verma	II	Lanthanides and actinides	Uses of lanthanides and their compounds
20.09.2014		P.K. Verma	II	Class Teaching	
22.09.2014	17	Dr. Shalini Singh	I	Solution and colligative property	Vant hoff factor (abnormal molecular masses)
22.09.2014	14	Dr. Ram Sahay	IV	Enzymes and coenzymes	Brief description of coenzymes
24.09.2014	18	Dr. Shalini Singh	I	Solution and colligative property	Numericals
26.09.2014	17	Priyanka Mishra	III	Polynuclear hydrocarbon	Chemistry of anthracene
27.09.2014	18	Priyanka Mishra	III	Polynuclear hydrocarbon	Chemistry of anthracene
29.09.2014	11	P. K. Verma	II	Lanthanides and actinides	Introduction and electronic configuration of actinides
29.09.2014	15	Dr. Ram Sahay	IV	Enzyme and coenzymes	Function of thiamine pyrophosphate
30.09.2014		Dr. Ram Sahay		Monthly Evaluation	
30.09.2014	16	Dr. Ram Sahay	IV	Nucleic acid	A general description of constituents of DNA & RNA

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01.10.2014	19	Dr. Shalini Singh	I	Statistical thermodynamics	Introduction, partition function
07.10.2014	20	Dr. Shalini Singh	I	Statistical thermodynamics	Translational, rotational, partition function
07.10.2014	17	Dr. R. Sahay	IV	Nucleic Acid	Salient features of a structure of DNA & RNA
09.10.2014	19	Priyanka Mishra	III	Polynuclear hydrocarbons	Chemistry of anthracene
10.10.2014	20	Priyanka Mishra	III	Polynuclear hydrocarbons	Chemistry of phenanthrene
11.10.2014	12	P. K. Verma	II	Lanthanides and actinides	Atomic and ionic radii & ionisation energy of actinides
13.10.2014		P. K. Verma	II	Class Teaching	
13.10.2014	18	Dr. Ram Sahay	IV	Nucleic acid	DNA denaturation and renaturation effect of UV-radiation on DNA
14.10.2014	21	Dr. Shalini Singh	I	Statistical thermodynamics	Vibrational partition function
14.10.2014	19	Dr. Ram Sahay	IV	Nucleic acid	Elementary idea of genetic code & recombinant DNA technology
15.10.2014	22	Dr. Shalini Singh	I	Statistical thermodynamics	Relationship between thermodynamic property and partition function
16.10.2014	21	Priyanka Mishra	III	Polynuclear hydrocarbons	Chemistry of phenanthrene
17.10.2014	22	Priyanka Mishra	III	Polynuclear hydrocarbons	Carcinogenic hydrocarbons
18.10.2014	13	P. K. Verma	II	Lanthanides and actinides	Oxidation state and their stability of actinides
27.10.2014		P. K. Verma		Monthly Evaluation	
27.10.2014	20	Dr. Ram Sahay	IV	Role of metals in biological systems	Introduction, role of Fe, Mg, Cu, Zn
28.10.2014	23	Dr. Shalini Singh	I	Statistical thermodynamics	Relationship between thermodynamic property & partition function
28.10.2014	21	Dr. Ram Sahay	IV	Role of metals in biological systems	Fe in myoglobin and hemoglobin
30.10.2014	24	Dr. Shalini Singh	I	Statistical thermodynamics	Relationship between thermodynamic property & partition function
31.10.2014	23	Priyanka Mishra	III	Heterocycles	Chemistry of indole
01.11.2014	24	Priyanka Mishra	III	Heterocycles	Chemistry of quinoline
07.11.2014	14	P. K. Verma	II	Lanthanides and actinides	Colour and absorption spectra of actinides
08.11.2014		P. K. Verma	II	Class Teaching	
10.11.2014	25	Dr. Shalini Singh	I	Quantum mechanics	Black body radiation, Planck's radiation, law Compton effect

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10.11.2014	22	Dr. Ram Sahay	IV	Role of metals in biological system	Cu in Plastocyanin and Hemocyanin
11.11.2014	26	Dr. Shalini Singh	I	Quantum mechanics	Photo electric effect, concept of wavemotion De-Broglie hypothesis
11.11.2014	23	Dr. Ram Sahay	IV	Role of metals in biological system	Zn in carboxy peptidases and carbonic anhydrase
12.11.2014	25	Priyanka Mishra	III	Heterocycles	Chemistry of isoquinoline
13.11.2014	26	Priyanka Mishra	III	Aminoacid, peptides & proteins	Classification of amino acids
14.11.2014	15	P. K. Verma	II	Lanthanides and actinides	Magnetic properties of actinides
15.11.2014		P. K. Verma	II	Class Teaching	
17.11.2014	27	Dr. Shalini Singh	I	Quantum mechanics	Heisenberg's uncertainty principle, difference between classical & quantum mechanics
17.11.2014	24	Dr. Ram Sahay	IV	Role of metals in biological system	Mg in chlorophyll
18.11.2014	28	Dr. Shalini Singh	I	Quantum mechanics	Derivation of schrodinger wave equation & its physical significance
18.11.2014	25	P. K. Verma	IV	Errors & Evaluation	Introduction mean & median
19.11.2014	27	Priyanka Mishra	III	Aminoacid, peptides & proteins	Classification of amino acids
20.11.2014	28	Priyanka Mishra	III	Aminoacid, peptides & proteins	Synthesis of amino acids
21.11.2014	16	P. K. Verma	II	Lanthanides and actinides	Complex formation in actinides
21.11.2014		P. K. Verma		Monthly Evaluation	
25.11.2014	29	Dr. Shalini Singh	I	Quantum mechanics	Hamiltonion operator, Schrodinger wave equation & its importance
25.11.2014	26	P. K. Verma	IV	Error & evaluation	Accuracy & precision
26.11.2014	30	Dr. Shalini Singh	I	Quantum mechanics	Schrodinger wave equation for H-atom
27.11.2014	29	Priyanka Mishra	III	Amino acid, peptides & proteins	Synthesis of polypeptides
28.11.2014	30	Priyanka Mishra	III	Amino acid, peptides & proteins	Determination of structure of polypeptides
29.11.2014	17	P. K. Verma	II	Lanthanides and actinides	Chemistry of separation of Np, Pu and Am from U
01.12.2014		P. K. Verma	II	Class Teaching	
01.12.2014	27	P. K. Verma	IV	Errors & evaluation	Significant figures absolute error, relative error

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02.12.2014	31	Dr. Shalini Singh	I	Quantum mechanics	Radial wave functions angular wave functions
02.12.2014	28	P. K. Verma	IV	Errors & evaluation	Application of statistics
03.12.2014	32	Dr. Shalini Singh	I	Quantum mechanics	Quantum numbers & their importance
06.12.2014	31	Priyanka Mishra	III	Amino acids, peptides & proteins	Classification of proteins
08.12.2014	32	Priyanka Mishra	III	Amino acids, peptides & proteins	Classification of proteins
08.12.2014	29	P. K. Verma	IV	Errors & evaluation	Types of error determinate & indeterminate
09.12.2014	18	P. K. Verma	II	Lanthanides & actinides	One synthesis each of Np to Lr.
09.12.2014	30	P. K. Verma	IV	Errors & evaluation	Determinate errors
11.12.2014		P. K. Verma	II	Class Teaching	
12.12.2014	33	Dr. Shalini Singh	I	Quantum mechanics	M.D.T. criteria forming M.O. from atomic orbitals by L.C.A.O. method
15.12.2014	34	Dr. Shalini Singh	I	Quantum mechanics	H ²⁺ ion, calculation of energy levels from wave function
15.12.2014	31	P. K. Verma	IV	Errors & evaluation	Indeterminate errors
16.12.2014	33	Priyanka Mishra	III	Amino acids, peptides & proteins	Proteins denaturation & renaturation
16.12.2014	32	P. K. Verma	IV	Errors & evaluation	Gross error
17.12.2014	34	Priyanka Mishra	III	Elimination reaction	E ₁ reaction
18.12.2014	19	P. K. Verma	II	Environmental chemistry	Earth's atmosphere & its component
19.12.2014		P. K. Verma	II	Class Teaching	
20.12.2014	35	Dr. Shalini Singh	I	Quantum mechanics	Physical picture of bonding & anti bonding wave functions $\sigma, \sigma^*, \pi, \pi^*$ their characteristics
22.12.2014	36	Dr. Shalini Singh	I	Spectroscopy	Electromagnetic spectrum basic difference between spectrometers
22.12.2014	33	P. K. Verma	IV	Errors & evaluation	Source of errors
23.12.2014	35	Priyanka Mishra	III	Elimination reaction	E ₁ reaction
23.12.2014	34	P. K. Verma	IV	Errors & evaluation	Effect on analytical result, uses of statistics
24.12.2014	36	Priyanka Mishra	III	Elimination reaction	E ₂ reaction
26.12.2014	20	P. K. Verma	II	Environmental chemistry	Types of pollutants & their sources
27.12.2014		P. K. Verma		Monthly Evaluation	

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29.12.2014	37	Dr. Shalini Singh	I	Spectroscopy	Born open heimes approximation degree of freedom, rotational spectrum
29.12.2014	35	P. K. Verma	IV	Gravimetric analysis	Introduction & principle
30.12.2014	38	Dr. Shalini Singh	I	Spectroscopy	Energy levels, intensity population distribution, determination of bond length
30.12.2014	36	P. K. Verma	IV	Gravimetric analysis	Various steps involve in gravimetric analysis
31.12.2014	37	Priyanka Mishra	III	Elimination reaction	E_2 reaction
01.01.2015	38	Priyanka Mishra	III	Elimination reaction	E_1CB reaction
02.01.2015	21	P. K. Verma	II	Environmental chemistry	Green house effect and global warming
03.01.2015		P. K. Verma	II	Class Teaching	
06.01.2015	30	Dr. Shalini Singh	I	Spectroscopy	Non-rigid rotor, isotopic effect energy levels of S.H.O. selection rules
06.01.2015	37	P. K. Verma	IV	Grammetric analysis	Estimation of BaSO_4
07.01.2015	40	Dr. Shalini Singh	I	Spectroscopy	Pure vibrational spectrum, intensity, force constant, anhormonic vibration effect of isotope
08.01.2015	39	Priyanka Mishra	III	Elimination reaction	Distinction between E^1 , E^2 & E^1CB mechanism
09.01.2015	40	Priyanka Mishra	III	Reaction intermediates	Carbenes
10.01.2015	22	P. K. Verma	II	Environmental chemistry	Acid rains
12.01.2015		P. K. Verma	II	Class Teaching	
12.01.2015	38	P. K. Verma	IV	Gravimetric analysis	Co-precipitation, post precipitation
13.01.2015	41	Dr. Shalini Singh	I	Spectroscopy	Vibrational frequencies of different groups
13.01.2015	39	P. K. Verma	IV	Volumetric analysis	General terms used in volumetric analysis
17.01.2015	42	Dr. Shalini Singh	I	Spectroscopy	Raman spectrum, polarizability, quantum & classical approach
19.01.2015	41	Priyanka Mishra	III	Reaction intermediates	Nitrenes, benzynes
19.01.2015	40	P. K. Verma	IV	Volumetric analysis	Principles of acid base titration
20.01.2015	41	P. K. Verma	IV	Volumetric analysis	Indicators
20.01.2015	42	P. K. Verma	IV	Volumetric analysis	Redox titration iodimetry
21.01.2015	23	P. K. Verma	II	Environmental chemistry	Ozone layer
22.01.2015		P.K. Verma	II	Class Teaching	

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23.01.2015	43	Dr. Shalini Singh	I	Spectroscopy	Pure Vibrational & rotational Raman spectrum
27.01.2015	44	Dr. Shalini Singh	I	Spectroscopy	Mutual exclusion principle
28.01.2015	24	P. K. Verma	II	Coordination chemistry	CFT theory, drawback
29.01.2015	25	P. K. Verma	II	Coordination chemistry	d-orbital splitting in octahedral
30.01.2015	26	P. K. Verma	II	Coordination chemistry	d-orbital splitting in tetrahedral
31.01.2015		P. K. Verma		Monthly Evaluation	
02.02.2015	45	Dr. Shalini Singh	I	Spectroscopy	Potential energy curve Franck-Condon principle, selection rule
02.02.2015	46	Dr. Shalini Singh	I	Spectroscopy	σ , π and n-molecular orbital
03.02.2015	27	P. K. Verma	II	Coordination chemistry	d-orbital splitting in square planar field
03.02.2015	28	P. K. Verma	II	Coordination chemistry	Weak & strong field ligands
04.02.2015	29	P. K. Verma	II	Coordination chemistry	Dq and factors influencing its magnitude
05.02.2015	30	P. K. Verma	II	Coordination chemistry	Calculation of CFSE for d^1 to d^9 weak & strong field complexes
06.02.2015	31	P. K. Verma	II	Coordination chemistry	Magnetic properties on the basis of CFT, types of electronic transition
07.02.2015	32	P. K. Verma	II	Coordination chemistry	Selection rule, charge transfer
09.02.2015	33	P. K. Verma	II	Coordination chemistry	Spectrochemical series
09.02.2015	34	P. K. Verma	II	Coordination chemistry	 $_2O)_6J^{3+}$, $[Cu(H_2O)_6]^{2+}$
10.02.2015	35	P. K. Verma	II	Metal Carbonyls	Introduction, ligand behaviour of CO
10.02.2015	36	P. K. Verma	II	Metal carbonyls	General methods of preparation presentation of structure of binary of V, Cr, Mn
11.02.2015	37	P. K. Verma	II	Metal carbonyls	Structure of binary carbonyles of Fe, Co, Ni
12.02.2015	38	P. K. Verma	II	Metal nitrosyls	Ligand behaviour of No (NO^- , Bridging NO)
13.02.2015	39	P. K. Verma	II	Metal nitrosyls	Preparation & structure of Nitrosyls of Cr, Fe, Ru
*	40	P. K. Verma	II	Metal nitrosyls	Carbonyls, nitrosyls and cyanonitrosyls
*	43	P. K. Verma	IV	Volumetric analysis	Iodometry, complexometric, titration
*	44	P. K. Verma	IV	Volumetric analysis	Use of Data for determination of Ca^{2+} and Mg^{2+}
*	45	P. K. Verma	IV	Volumetric analysis	Hardness & total hardness of water
*	46	P. K. Verma	IV	Biological membrane	General features

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*	47	P. K. Verma	IV	Biological membrane	Fluid mosaic model, diffusion, facilitated diffusion