

कक्षा : बी.एस.सी. भाग-तीन					विषय : रसायन शास्त्र
दिनांक	व्याख्यान	प्राध्यापक का नाम	प्रश्नपत्र	अध्याय	शीर्षक
16.07.2012	1.	Dr. Shalini Singh	IV	Errors and evaluation	Introduction, mean, median and mode
16.07.2012	1.	Dr. Shalini Singh	I	Photochemistry	Introduction-thermo chemical reaction
17.07.2012	2.	Dr. Shalini Singh	IV	Errors and evaluation	Accuracy and precision
17.07.2012	2.	Dr. Shalini Singh	I	Photochemistry	Photochemical reaction, laws of photochemistry
18.07.2012	1.	Dr. Manisha Kapoor	II	Chemistry of lanthanides and actinides	A general introduction, electronic configuration
19.07.2012	2.	Dr. Manisha Kapoor	II	Chemistry of lanthanides and actinides	Atomic and ionic radii
20.07.2012	1.	Dr. S.K. Vernwal	III	Molecular rearrangement and name reactions	Pinacol-pinacolone rearrangement
21.07.2012	2.	Dr. S.K. Vernwal	III	Molecular rearrangement and name reactions	Benzyl-benzilic acid rearrangement
23.07.2012	3.	Dr. Shalini Singh	IV	Errors and evaluation	Significant figures, absolute error, relative error
23.07.2012	3.	Dr. Shalini Singh	I	Photochemistry	Photophysical processes

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25.07.2012	3.	Dr. Manisha Kapoor	II	Chemistry of lanthanides and actinides	Lanthanide contraction, ionization energy
26.07.2012	4.	Dr. Manisha Kapoor	II	Chemistry of lanthanides and actinides	Oxidation states and their stability, colour & spectral behaviour
27.07.2012	3.	Dr. S.K. Vernwal	III	Molecular rearrangement and name reactions	Beckmann rearrangement
28.07.2012	4.	Dr. S.K. Vernwal	III	Molecular rearrangement and name reactions	Fries rearrangement
30.07.2012	4.	Dr. Shalini Singh	IV	Error and evaluation	Types of errors-determinate and indeterminate errors
30.07.2012	4.	Dr. Shalini Singh	I	Photochemistry	Jablonski diagram
31.07.2012	5.	Dr. Shalini Singh	IV	Errors and evaluation	Determinate errors
31.07.2012	5.	Dr. Shalini Singh	I	Photochemistry	Potential-energy curves
01.08.2012	5.	Dr. Manisha Kapoor	II	Chemistry of Lanthanides and Actinides	Calculation of magnetic moments and correlation with experimental data

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03.08.2012	5.	Dr. S.K. Vernwal	III	Molecular rearrangement and name reaction	Claisen-Schmidt reaction
04.08.2012		Dr. S. K. Vernwal	III	Class Teaching	
06.08.2012	6.	Dr. Shalini Singh	IV	Errors and evaluation	Determinate errors
06.08.2012	6.	Dr. Shalini Singh	I	Photochemistry	Quantum yield and its efficiency
07.08.2012	7.	Dr. Shalini Singh	IV	Errors and evaluation	Indeterminate errors
07.08.2012	7.	Dr. Shalini Singh	I	Photochemistry	Reason for low and high quantum yield
08.08.2012	6.	Dr. Manisha Kapoor	II	Chemistry of lanthanides and actinides	Ability to form complexes and complexes of different coordination number
09.08.2012	7.	Dr. Manisha Kapoor	II	Chemistry of lanthanides and actinides	Occurance and principles of separation of lanthanides
11.08.2012		Dr. S. K. Vernwal	III	Class Teaching	
13.08.2012	8.	Dr. Shalini Singh	IV	Errors and evaluation	Gross error
13.08.2012	8.	Dr. Shalini Singh	I	Photochemistry	Photo sensitized reaction
14.08.2012	9.	Dr. Shalini Singh	IV	Errors and evaluation	Sources of errors

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14.08.2012	9.	Dr. Shalini Singh	I	Nuclear chemistry	Introduction and fundamental particles
18.08.2012		Dr. S. K. Vernwal	III	Class Teaching	
20.08.2012	10.	Dr. Shalini Singh	IV	Errors and evaluation	Effect on analytical result, uses of statistics
20.08.2012	10.	Dr. Shalini Singh	I	Nuclear chemistry	Nuclear forces
21.08.2012	11.	Dr. S. K. Vernwal	IV	Enzymes and coenzymes	General features of enzymes and their active sites
21.08.2012	11.	Dr. Shalini Singh	I	Nuclear chemistry	Nuclear models-liquid drop model
22.08.2012	8.	Dr. Manisha Kapoor	II	Chemistry of lanthanides	Chemistry of separation of Np, Pu and Am from U
23.08.2012	9.	Dr. Manisha Kapoor	II	Chemistry of lanthanides and actinides	Synthesis : Np to Lr
24.08.2012	6.	Dr. S.K. Vernwal	III	Molecular rearrangement and name reactions	Dieckmann reaction
25.08.2012		Dr. S.K. Vernwal		Evaluation	
27.08.2012	12.	Dr. S.K. Vernwal	IV	Enzymes and coenzymes	Ribozymes and abzymes
27.08.2012	12.	Dr. Shalini Singh	I	Nuclear chemistry	Nuclear shell model
28.08.2012	13.	Dr. S.K. Vernwal	IV	Enzymes and coenzymes	Enzyme nomenclature, units of enzyme activity

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28.08.2012	13.	Dr. Shalini Singh	I	Nuclear chemistry	Nuclear stability
29.08.2012	10.	Dr. Manisha Kapoor	II	Coordination chemistry	C.F.T.- definition of crystal field theory
30.08.2012	11.	Dr. Manisha Kapoor	II	Coordination chemistry	d-orbital splitting in octahedral field
01.09.2012		Dr. S. K. Vernwal	III	Class Teaching	
03.09.2012	14.	Dr. S.K. Vernwal	IV	Enzymes and coenzymes	Derivation of michaelis-menten equation
03.09.2012	14.	Dr. Shalini Singh	I	Nuclear chemistry	Energy change during nuclear reaction, nuclear fission
04.09.2012	15.	Dr. S.K. Vernwal	IV	Enzymes and coenzymes	Experimental determination of K_m and V_{max}
04.09.2012	15.	Dr. Shalini Singh	I	Nuclear chemistry	Nuclear fission, spallation reaction
05.09.2012	12.	Dr. Manisha Kapoor	II	Coordination chemistry	d-orbital splitting in octahedral field
06.09.2012	13.	Dr. Manisha Kapoor	II	Coordination chemistry	d-orbital splitting in tetrahedral field
07.09.2012	7.	Dr. S.K. Vernwal	III	Polymers	Types of polymerisation
08.09.2012		Dr. S. K. Vernwal	III	Class Teaching	
10.09.2012	16.	Dr. S.K. Vernwal	IV	Enzymes and coenzymes	Physical significance of K_m and V_{max} , significance of k_{cat}/K_m

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10.09.2012	16.	Dr. Shalini Singh	I	Nuclear chemistry	Nuclear cross section area
11.09.2012	17.	Dr. S. K. Vernwal	IV	Enzymes and coenzymes	Competitive, uncompetitive, non-competitive and suicidal inhibitors
11.09.2012	17.	Dr. Shalini Singh	I	Nuclear chemistry	Atom bomb, hydrogen bomb
13.09.2012	14.	Dr. Manisha Kapoor	II	Coordination chemistry	d-orbital splitting in square planer field
14.09.2012	8.	Dr. S.K. Vernwal	III	Polymers	Mechanism of polymerisation
15.09.2012		Dr. S. K. Vernwal	III	Class Teaching	
18.09.2012	18.	Dr. S.K. Vernwal	IV	Enzymes and coenzymes	A brief description of coenzymes
18.09.2012	18.	Dr. Shalini Singh	I	Nuclear chemistry	Applications: carbon dating, tracer technique
19.09.2012	15.	Dr. Manisha Kapoor	II	Coordination chemistry	Dq and factors influencing its magnitude
20.09.2012	16.	Dr. Manisha Kapoor	II	Coordination chemistry	Calculation of CFSE for d_1 - d_9 weak and strong field complexes
21.09.2012	9.	Dr. S.K. Vernwal	III	Polymers	Mechanism of polymerisation
22.09.2012		Dr. S. K. Vernwal		Evaluation	
24.09.2012	19.	Dr. S.K. Vernwal	IV	Enzymes and coenzymes	Function of thiamine pyrophosphate

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24.09.2012	19.	Dr. Shalini Singh	I	Nuclear chemistry	Radioactivity in medicines
25.09.2012	20.	Dr. S.K. Vernwal	IV	Enzymes and coenzymes	Coenzymes
25.09.2012	20.	Dr. Shalini Singh	I	Nuclear chemistry	Radioactivity in agriculture and research
26.09.2012	17.	Dr. Manisha Kapoor	II	Coordination chemistry	Weak and strong field ligands
27.09.2012	18.	Dr. Manisha Kapoor	II	Coordination chemistry	Dq and factors influencing its magnitude
01.10.2012	21.	Dr. Shalini Singh	IV	Gravimetric analysis	Introduction and principle
01.10.2012	21.	Dr. Shalini Singh	I	Surface chemistry	Definition-chemical adsorption
04.10.2012	19.	Dr. Manisha Kapoor	II	Coordination chemistry	Calculation of CFSE for d_1-d_9 weak and strong field complexes.
05.10.2012	10.	Dr. S.K. Vernwal	III	Polymers	Mechanism of polymerisation
06.10.2012	11.	Dr. S. K. Vernwal	III	Polymers	Preparation & uses of teflon, terylene, nylon and dynel
08.10.2012	22.	Dr. Shalini Singh	IV	Gravimetric analysis	Various steps of gravimetric analysis
08.10.2012	22.	Dr. Shalini Singh	I	Surface chemistry	Physical adsorption, difference between physical adsorption and chemisorption

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11.10.2012	20.	Dr. Manisha Kapoor	II	Coordination chemistry	Interpretation of magnetic properties on the basis of C.F.T.
12.10.2012	12.	Dr. S.K. Vernwal	III	Polymers	Natural and sythetic rubber
13.10.2012	13.	Dr. S.K. Vernwal	III	Dyes	Colour and constitution
17.10.2012	21.	Dr. Manisha Kapoor	II	Electronic spectra of transition metal complexes	Types of electronic transition
18.10.2012	22.	Dr. Manisha kapoor	II	Electronic spectra of transition metal complexes	Selection rule for d-d transition, charge-transfer
19.10.2012	14.	Dr. S.K. Vernwal	III	Dyes	Classification of dyes
20.10.2012	15.	Dr. S. K. Vernwal	III	Dyes	Chemistry of methyl orange and congo red
29.10.2012	23.	Dr. Shalini Singh	IV	Gravimetric analysis	Various steps of gravimetric analysis
29.10.2012	23.	Dr. Shalini Singh	I	Surface chemistry	Fruendlich isotherm
30.10.2012	24.	Dr. Shalini Singh	IV	Gravimetric analysis	Co-precipitation and post precipitation
30.10.2012		Dr. Shalini Singh		Evaluation	

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31.10.2012	23.	Dr. Manisha Kapoor	II	Electronic spectra of transition metal complexes	Spectroscopic ground state terms for d_1-d_{10} systems
01.11.2012	24.	Dr. Manisha Kapoor	II	Electronic spectra of transition metal complexes	Spectro chemical series, electronic spectra of $[Ti(H_2O)_6]^{3+}$.
02.11.2012	16	Dr. S. K. Vernwal	III	Dyes	Malachite green, crystal violet
03.11.2012	17.	Dr. S.K. Vernwal	III	Dyes	Phenolphthalein and fluorescein
05.11.2012	25.	Dr. Shalini Singh	IV	Volumetric analysis	General principles of acid-base titration
05.11.2012	24.	Dr. Shalini Singh	I	Surface chemistry	Langmuir isotherm
06.11.2012	26.	Dr. Shalini Singh	IV	Volumetric analysis	Redox titration
06.11.2012		Dr. Shalini Singh	I	Class Teaching	
07.11.2012	25.	Dr. Manisha Kapoor	II	Electronic spectra of transition metal complexes	Electronic spectra of $[Cu(H_2O)_6]^{2+}$
08.11.2012	26.	Dr. Manisha Kapoor	II	Environmental chemistry	The earth's component and its constituents
09.11.2012	18.	Dr. S.K. Vernwal	III	Polynuclear hydrocarbons	Chemistry of anthracene
16.11.2012	19.	Dr. S.K. Vernwal	III	Polynuclear hydrocarbons	Chemistry of anthracene

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17.11.2012	20.	Dr. S.K. Vernwal	III	Polynuclear hydrocarbons	Chemistry of anthracene
19.11.2012	27.	Dr. Shalini Singh	IV	Volumetric analysis	Iodimetry, iodometry
19.11.2012	25.	Dr. Shalini Singh	I	Surface chemistry	Types of adsorption isotherm
20.11.2012		Dr. Shalini Singh	I	Class Teaching	
20.11.2012	26.	Dr. Shalini Singh	I	Surface chemistry	B.E.T. equation
21.11.2012	27.	Dr. Manisha Kapoor	II	Environmental chemistry	Types of pollutants
22.11.2012	28.	Dr. Manisha Kapoor	II	Environmental chemistry	Sources of pollutants
23.11.2012	21.	Dr. S.K. Vernwal	III	Polynuclear hydrocarbons	Chemistry of phenanthrene
26.11.2012	28.	Dr. Shalini Singh	IV	Volumetric analysis	Complexometric titration
26.11.2012	27.	Dr. Shalini Singh	I	Surface chemistry	Determination of surface area
27.11.2012	29.	Dr. Shalini Singh	IV	Volumetric analysis	Use of EDTA for determination of Ca^{2+} and Mg^{2+}
27.11.2012		Dr. Shalini Singh		Evaluation	
29.11.2012	29.	Dr. Manisha Kapoor	II	Environmental chemistry	Green house effect and global warming
30.11.2012	22.	Dr. S.K. Vernwal	III	Polynuclear hydrocarbons	Chemistry of phenanthrene
01.12.2012	23.	Dr. S.K. Vernwal	III	Polynuclear hydrocarbons	Carcinogenic hydrocarbons

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03.12.2012	30.	Dr. Shalini Singh	IV	Volumetric analysis	Hardness of water, type of EDTA titration
03.12.2012	28.	Dr. Shalini Singh	I	Colligative property	Introduction
07.12.2012	24.	Dr. S.K. Vernwal	III	Heterocycles	Chemistry of quinoline
08.12.2012	25.	Dr. S. K. Vernwal	III	Heterocycles	Chemistry of isoquinoline
11.12.2012	31.	Dr. Shalini Singh	IV	Volumetric analysis	Metal ion indicator.
11.12.2012	29.	Dr. Shalini Singh	I	Colligative property	Thermodynamic derivation of relation between molecular weight & elevation in boiling point
12.12.2012	30.	Dr. Manisha Kapoor	II	Environmental chemistry	Acid rains
13.12.2012		Dr. Manisha Kapoor	II	Class Teaching	
14.12.2012	26.	Dr. S. K. Vernwal	III	Heterocycles	Chemistry of isoquinoline
15.12.2012	27.	Dr. S.K. Vernwal	III	Amino acids, peptides and proteins	Classification of amino acids
17.12.2012	32.	Dr. Manisha Kapoor	IV	Nucleic acid	A general description of constituents of DNA and RNA

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17.12.2012	30.	Dr. Shalini Singh	I	Colligative property	Thermodynamic derivation of relation between molecular weight & depression in freezing point
18.12.2012	33.	Dr. Manisha Kapoor	IV	Nucleic acid	Salient features of structure of DNA
18.12.2012	31.	Dr. Shalini Singh	I	Colligative property	Experimental methods
19.12.2012	31.	Dr. Manisha Kapoor	II	Environmental chemistry	Ozone layer importance and its protection
20.12.2012		Dr. Manisha Kapoor	II	Class Teaching	
21.12.2012	28.	Dr. S.K. Vernwal	III	Amino acids, peptides and proteins	Synthesis and properties of amino acids
22.12.2012	29.	Dr. S.K. Vernwal	III	Amino acids, peptides and proteins	Isoelectric point and electrophoresis
26.12.2012	32.	Dr. Manisha Kapoor	II	Metal carbonyls	Ligand behaviour of Co
27.12.2012		Dr. Manisha Kapoor		Evaluation	
28.12.2012	30.	Dr. S.K. Vernwal	III	Amino acids, peptides and proteins	Synthesis of polypeptides

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29.12.2012	31.	Dr. S.K. Vernwal	III	Amino acids, peptides and proteins	Determination of structure of polypeptides
31.12.2012	34.	Dr. Manisha Kapoor	IV	Nucleic acid	Structure of RNA
31.12.2012	32.	Dr. Shalini Singh	I	Colligative property	Abnormal molecular masses
01.01.2013	35.	Dr. Manisha Kapoor	IV	Nucleic acid	DNA denaturation and renaturation, effect of UV radiation on DNA
01.01.2013	33.	Dr. Shalini Singh	I	Colligative property	Van't hof factor
02.01.2013	33.	Dr. Manisha Kapoor	II	Metal carbonyls	General method of preparation
03.01.2013		Dr. Manisha Kapoor	II	Class Teaching	
04.01.2013	32.	Dr. S.K. Vernwal	III	Amino acids, peptides and proteins	Classification of proteins
07.01.2013	36.	Dr. Manisha Singh	IV	Nucleic acid	Elementary idea of genetic code and recombinant DNA technology
07.01.2013	34.	Dr. Shalini Singh	I	Statistical thermodynamics	Introduction, energy level
08.01.2013	37.	Dr. Manisha Kapoor	IV	Biological membrane	General features of biological membrane

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08.01.2013	35.	Dr. Shalini Singh	I	Statistical thermodynamics	Microstates, partition function
09.01.2013	34.	Dr. Manisha Kapoor	II	Metal carbonyls	Representation of structure of the binary carbon of V, Cr, Mn
10.01.2013		Dr. Manisha Kapoor	II	Class Teaching	
11.01.2013	33.	Dr. S.K. Vernwal	III	Amino acids, peptides and proteins	Properties and structure of proteins
12.01.2013	34.	Dr. S.K. Vernwal	III	Amino acids, peptides and proteins	Protein denaturation and renaturation
16.01.2013	35.	Dr. Manisha Kapoor	II	Metal carbonyls	Fe, Co and Ni
17.01.2013	36.	Dr. Manisha Kapoor	II	Metal nitrosyls	Ligand behaviour of NO (NO ⁺ , NO ⁻ and bridging NO)
18.01.2013	35.	Dr. S.K. Vernwal	III	Elimination reaction	Treatment of E1
19.01.2013	36.	Dr. S.K. Vernwal	III	Elimination reaction	Treatment of E1
21.01.2013	38.	Dr. Manisha Kapoor	IV	Biological membrane	Fluid mosaic model
21.01.2013	36.	Dr. Shalini Singh	I	Statistical thermodynamics	Translational partition function

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22.01.2013	39.	Dr. Manisha Kapoor	IV	Biological membrane	Diffusion, facilitated diffusion
22.01.2013	37.	Dr. Shalini Singh	I	Statistical thermodynamics	Rotational partition function
23.01.2013	37.	Dr. Manisha Kapoor	II	Metal nitrosyls	Preparation of metal nitrosyls
24.01.2013	38.	Dr. Manisha Kapoor	II	Metal nitrosyls	Structures of nitrosyls of Cr,Fe
25.01.2013	37.	Dr. S.K. Vernwal	III	Elimination reaction	Treatment of E2
28.01.2013	40.	Dr. Manisha Kapoor	IV	Biological membrane	Active transport through a biological membrane
28.01.2013	38.	Dr. Shalini Singh	I	Statistical thermodynamics	Vibrational partition function
29.01.2013	41.	Dr. Manisha Kapoor	IV	Biological membrane	Donnan-membrane equilibria
29.01.2013	39.	Dr. Shalini Singh	I	Statistical thermodynamics	Relationship between thermodynamics and partition function
31.01.2013	38.	Dr. S.K. Vernwal	III	Elimination reaction	Treatment of E2
*	42.	Dr. Manisha Kapoor	IV	Role of metal in biological system	Introduction, role of Fe, Mg, Cu

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कक्षा : बी.एस.सी. भाग-तीन					विषय : रसायन शास्त्र
दिनांक	व्याख्यान	प्राध्यापक का नाम	प्रश्नपत्र	अध्याय	शीर्षक
*	43.	Dr. Manisha Kapoor	IV	Role of metal in biological system	Zn in carboxypeptidase
*	44.	Dr. Manisha Kapoor	IV	Role of metal in biological system	Fe in myoglobin
*	39.	Dr. S.K. Vernwal	III	Elimination reaction	Distinction between E1 and E1cb mechanism
*	40.	Dr. S.K. Vernwal	III	Elimination reaction	E1 cb mechanism
*	39.	Dr. Manisha Kapoor	II	Metal nitrosyls	Preparation and structure of nitrosyl of Ru
*	45.	Dr. Manisha Kapoor	IV	Role of metal in biological system	Cu in plastocyanin and haemocyanin
*	46.	Dr. Manisha Kapoor	IV	Role of metal in biological system	Zinc in carbonic anhydrase
*	41.	Dr. S.K. Vernwal	III	Reaction intermediates	Carbenes
*	42.	Dr. S.K. Vernwal	III	Reaction intermediates	Nitrenes
*	40.	Dr. Minisha Kapoor	II	Metal nitrosyls	Carbonyl nitrosyls
*	41.	Dr. Minisha Kapoor	II	Metal nitrosyls	Cyano nitrosyls

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कक्षा : बी.एस.सी. भाग-तीन					विषय : रसायन शास्त्र
दिनांक	व्याख्यान	प्राध्यापक का नाम	प्रश्नपत्र	अध्याय	शीर्षक
*	47.	Dr. Manisha Kapoor	IV	Role of metal in biological system	Mg in chlorophyll
*	40.	Dr. Shalini Singh	I	Statistical thermodynamics	Relationship between thermodynamics and partition function
*	43.	Dr. S.K. Vernwal	III	Reaction intermediates	Benzynes
*	44.	Dr. S.K. Vernwal	III	Reaction intermediates	Carbocations
*	45.	Dr. S.K. Vernwal	III	Reaction intermediates	Carbanions
*	41.	Dr. Shalini Singh	I	Quantum mechanics	Compton effect, concept of wave motion, de-Broglie hypothesis
*	50.	Dr. Ram Sahay	IV	Separation technique	Thin layer chromatography
*	46.	Dr. S.K. Vernwal	III	Reaction intermediates	Stability of carbanions
*	47.	Dr. S.K. Vernwal	III	Reaction intermediates	Free radicals
*	48.	Dr. S.K. Vernwal	III	Reaction intermediates	Stability of free radicals
*	44.	Dr. Shalini Singh	I	Quantum mechanics	Heisenberg's uncertainty principle, operators
*	45.	Dr. Shalini Singh	I	Quantum mechanics	Schrodinger wave equation, derivation

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कक्षा : बी.एस.सी. भाग-तीन					विषय : रसायन शास्त्र
दिनांक	व्याख्यान	प्राध्यापक का नाम	प्रश्नपत्र	अध्याय	शीर्षक
*	51.	Dr. Ram Sahay	IV	Separation technique	Column chromatography
*	46.	Dr. Shalini Singh	I	Quantum mechanics	S.W.E. and its importance, physical interpretation of the wave function
*	52.	Dr. Ram Sahay	IV	Separation technique	H.P.L.C.
*	49.	Dr. S.K. Vernwal	III	Reaction intermediates	Classical carbocations
*	50.	Dr. S.K. Vernwal	III	Reaction intermediates	Classical carbocations
*	51.	Dr. S.K. Vernwal	III	Reaction intermediates	Non-classical carbocations
*	52.	Dr. S.K. Vernwal	III	Reaction intermediates	Non-classical carbocations
*	47.	Dr. Shalini Singh	I	Quantum mechanics	Schrodinger wave equation for hydrogen atom.
*	53.	Dr. Ram Sahay	IV	Separation technique	Ion-exchange chromatography
*	48.	Dr. Shalini Singh	I	Quantum mechanics	Separation of variables, radial wave function,
*	54.	Dr. Ram Sahay	IV	Separation technique	Solvent extraction
*	49.	Dr. Shalini Singh	I	Quantum mechanics	Angular wave function, quantum number and its importance
*	50.	Dr. Shalini Singh	I	Quantum mechanics	Basic ideas of M.O.T.
*	51.	Dr. Shalini Singh	I	Quantum mechanics	LCAO method- H_2^+ ion

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कक्षा : बी.एस.सी. भाग-तीन					विषय : रसायन शास्त्र
दिनांक	व्याख्यान	प्राध्यापक का नाम	प्रश्नपत्र	अध्याय	शीर्षक
*	52.	Dr. Shalini Singh	I	Quantum mechanics	Orbitals and their characteristics
*	53.	Dr. Shalini Singh	I	Quantum mechanics	V.B.T. of H ₂ molecule, comparison between M.O.T. and V.B.T.
*	55.	Dr. Ram Sahay	IV	Separation technique	Principle and analytical applications
*	54.	Dr. Shalini Singh	I	Quantum mechanics	Calculation of coefficient of orbitals
*	55.	Dr. Shalini Singh	I	Spectroscopy	Introduction
*	56.	Dr. Shalini Singh	I	Spectroscopy	Microwave spectra
*	57.	Dr. Shalini Singh	I	Spectroscopy	Rigid rotor model
*	58.	Dr. Shalini Singh	I	Spectroscopy	Selection rules, spectral intensity, determination of bond length
*	59.	Dr. Shalini Singh	I	Spectroscopy	Qualitative description of non rigid rotor, isotopic effect
*	60.	Dr. Shalini Singh	I	Spectroscopy	Vibrational spectra-harmonic oscillator Model, selection rule, intensity

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*	61.	Dr. Shalini Singh	I	Spectroscopy	Force constant and its relationship with bond energies
*	62.	Dr. Shalini Singh	I	Spectroscopy	Anharmonic motion and isotopic effect, rotational-vibrational spectra
*	63.	Dr. Shalini Singh	I	Spectroscopy	Applications
*	64.	Dr. Shalini Singh	I	Spectroscopy	Raman spectra-stokes and antistokes line
*	65.	Dr. Shalini Singh	I	Spectroscopy	Theories of raman spectra
*	66.	Dr. Shalini Singh	I	Spectroscopy	Pure rotational spectra, selection rule, mutual exclusion principle
*	67.	Dr. Shalini Singh	I	Spectroscopy	Electronic spectra
*	68.	Dr. Shalini Singh	I	Spectroscopy	Potential energy curve, Franck-Condon principle
*	69.	Dr. Shalini Singh	I	Spectroscopy	Types of transition
*	70.	Dr. Shalini Singh	I	Spectroscopy	Selection rule

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दिनांक	व्याख्यान	प्राध्यापक का नाम	प्रश्नपत्र	अध्याय	शीर्षक
<u>Extra Classes</u> * Paper- I (Physical Chemistry) - Dr. Shalini Singh (31) * Paper- II (Inorganic Chemistry) - Dr. Manisha Kapoor (03) * Paper- III (Organic Chemistry)- Dr. S. K. Vernwal (14) * Paper- IV (Analytical & Biological Chemistry)- Dr. Salini Singh/Dr. S. K. Vernwal/Dr. Manisha Kapoor/Dr. Ram Sahay (14)					