

RK VIGYAN PG COLLEGE KALWAR JAIPUR, RAJ.
B.SC 3RD SEMESTER CHEMISTRY THEORY

S.N	PAPER (I, II,) NAME	UNIT	TOPIC	VIDEO LINK
1		UNIT-I S- block elements	Comparative study of properties of alkaline and alkaline earth metals,	https://youtu.be/lva4lQoFZEA?si=y1-O9v2kGnZoDBk6
2			Diagonal relationship	https://youtu.be/iscFk_Uovmo?si=C_jiYi_tP3oqZP0S
3			Silent features of hydrides	https://youtu.be/AKDkluh5ToQ?si=HXY7JUrrHH-YQ_RK2
4			Complexation tendencies in s block	https://youtu.be/zF693o2ICfo?si=6NjCu9PG014uLLNU
5			Function of s block elements in bio system	https://youtu.be/CAOTzjecUQA?si=mSbZhz3aRY3oID2q
6			Solvation nature of s block elements	https://youtu.be/7i_Kwz_JEGw?si=hDz-1f8yVh5Mx2pW
7			P block elements general properties	https://youtu.be/sbHklw2tnrk?si=gtDWZ4NMZ6bhCyho
8			Diagonal relationship in p block elements	https://youtu.be/0KGZTz5ptpc?si=8THflgQjXbK3R_OX
9			Catenation property	https://youtu.be/dAdhUjopiEg?si=eUzb7v_GkbKY7KLc
10			Catenation	https://youtu.be/Gho8sn0AwtQ?si=YKuky-2QTa9ibShv
11			Hydrides of boron	https://youtu.be/Vx5c1du-x5A?si=GasGm-Zzc6eid1DS
12			Borazine	https://youtu.be/QtT7ZDuZoq8?si=_4-6CxbEzUTclX0
13			Borazine	https://youtu.be/dFI0LcqSboQ?si=OBOqtT4vhFn1Dzgu
14			Fullerene	https://youtu.be/QqZqG1Mjatg?si=1My2LHcGAus-9Q4l

15			Carbides	https://youtu.be/go2kPG9vIVY?si=IPZjZ07rWnOgnkWw
16			Silicates	https://youtu.be/wUIDSjzfuJA?si=8rfbCoYQY4FC6IAr
17			Tetrasulphur tetranitride	https://youtu.be/JuQnKO_QHBY?si=cE_MolfMkqjX1-yv
18			Basic properties of halogen	https://youtu.be/M5fz5eIQm9k?si=ck9EwnNXIlgprA6F3
19			Inter halogen	https://youtu.be/jXZfM_BdnmE?si=WHp1KN7_5Rx_sdLR
20			Polyhalides	https://youtu.be/e1mExsYVzuM?si=unzoRyG_iAzgtqt2
21			Chemical properties of noble gases	https://youtu.be/OsGygwWiCFg?si=s5RgpvJfLFS27JBC
22			Chemistry of xenon	https://youtu.be/vu6h0rOz_2c?si=OAUBCTmslhHAjPR8
23			Structure and bonding of xenon compound	https://youtu.be/rbvAmonMxal?si=eXe6EKIQkuc1klB0
24		UNIT-II	Uses of redox potential data	https://youtu.be/IBc8A8bOZsl?si=G6uNiME--i8r-NZE
25			Redox cycle	https://youtu.be/lagd5AC_OhM?si=2YC_IW7dBvPcgwMx
26			Redox stability in water	https://youtu.be/l3tG8ryKKRA?si=a3Rx7gV64ishs_7S
27			Latimer diagram	https://youtu.be/u3y-3XrVsbk?si=Zd7m7Gyd9Hior5nX
28			Frost diagram	https://youtu.be/9878OLucWrA?si=iS3Wxc9z23vtr3WX
29			Pourbaix diagram	https://youtu.be/Hn26i2KwYkg?si=ajGtAjpBzQPNBxXs
30			Principal involved in the extraction of elements	https://youtu.be/uSIM3TLE60E?si=THLNe20uSjiUj150
31		Non-aqueous solvent	Physical properties of non aqueous solvent	https://youtu.be/08mLYgbmR8U?si=daYG4GcwHuwyFhZv
32			Types of solvent	https://youtu.be/PWHLWkEWx6s?si=3iqBFq6l4y4RiwXF
33			Reaction in non-aqueous solvent with reference to liquid NH ₃	https://youtu.be/nqWVt8MZEQo?si=KgJtw9hj7ttEqmZn

34			Reaction in non aqueous solvent with liquid SO_2	https://youtu.be/wE8tdRgvT4E?si=FUS2XITv8w_TNIWR
35			Concept of nuclides and relationship isotope isobar isotope	https://youtu.be/ZAKtoS-dzKg?si=s-ES9ZX5kRq2mt_Z
36			Fundamental partical of nucleus	https://youtu.be/mlxVgKuSt9A?si=zrDhPx3G-gp4Auia
37			Force oparating between n-n, p-p, n-p	https://youtu.be/W0Gn3xIfQB?si=b9boAfkmrSwidftX
38			Quantitative idea of stability of nucleus n/p ratio	https://youtu.be/6FZbE91j2lQ?si=9g5ssx2SLEcmweEo
39		Radio element chemistry	Natural and artificial radioactivity	https://youtu.be/ozVlifOr8KE?si=33l5sdnIYAU1OP2W
40			Radioactive displacement law	https://youtu.be/FOahtbeYpWo?si=3xBfmE19Was1-YN
41			Radioactivity Decay rate Half Life	https://youtu.be/fOMvJj39eTU?si=YAwVYTcHSLLYnEEY
42			Radioactive avarage life	https://youtu.be/-bB8FCvGQ4M?si=moxWRoYNf58xt4SU
43			Nuclear binding energy mass defect and calculation of defect and wind energy	https://youtu.be/X1PiySgn1DA?si=2lnWGe5UXf4V6lYg
44			Reaction nuclear fission and fusion	https://youtu.be/4HQIXcMj-Wc?si=JDowCdOWAhh0d5gu
45			Nuclear reactor and hydrogen bomb	https://youtu.be/0zDwOf4vtTk?si=Dvm3HhXWdz0xkbEB
46		UNIT-III Alkanes and	Free radical halogenation of alkanes. Mechanism	https://youtu.be/ByfT-458Eoc?si=cAmp0BbomXI9berW

		cycloalkanes		
47			Orientation, reactivity and selectivity	https://youtu.be/N4IEeat8NFI?si=Zr81KT5Fn3O0-yXo
48			Cycloalkanes – nomenclature	https://youtu.be/Xzu0Pu2jo2Y?si=pVQtN2cTukzDEso5
49			Cycloalkanes - methods of formation, chemical reactions	https://youtu.be/HltvmZ_Ciu4?si=5DmdOCaeCJEJ7lsb
50			Baeyer's strain theory and its limitations	https://youtu.be/ytwHq8hRBBE?si=nf2PP7dUfEYgJM9-
51			Theory of strain in rings	https://youtu.be/mGyC3gU9Gxg?si=az_tLRhzOqV24ak6
52		Alkanes, cycloalkanes, Dienes and alkynes	Relative stabilities of alkanes	https://youtu.be/8TulG5EAbQs?si=LvzKSQpH-u0tXU92
53			Hydroboration oxidation	https://youtu.be/y4ROwu7m-Z4?si=4--F19T5pmnz7i_G
54			Oxymercuration reduction	https://youtu.be/VwqsHLLNOMQ?si=3Swjfc8IJ1mige gy
55			Epoxidation , ozonolysis and oxidation with KMno ₄	https://youtu.be/NWEsTVEE6Zc?si=roP31swtv2e9p5y2
56			Epoxidation , ozonolysis and oxidation with KMno ₄	https://youtu.be/cJe8l_nk9ms?si=Tq1gioLvqOzN_8_9
57			Polymerization of alkenes	https://youtu.be/AcuagcDFttE?si=NTVglzacbYBuN0cx
58			Classification and nomenclature of isolated, conjugated and cumulated dienes	https://youtu.be/dYAQKaU7tzE?si=aDoJ7C675Za2lxyN
59			Classification and	https://youtu.be/zf8ISW59B4g?si=cyCpVP7n6YD3a8m_

			nomenclature of isolated, conjugated and cumulated dienes	
60			Structure of alkenes and butadiene	https://youtu.be/-ZZR6mXyum4?si=O7GBxlDEUpkynPoK
61			Structure of alkenes and butadiene	https://youtu.be/6aSCUCgUQdA?si=1xQaZLWIWjZJ6YWK
62			Methods of formation, properties and chemical reactions _1,2 and 1,4 _additions ,Diels _ Alder reaction and polymerization reactions	https://youtu.be/diNB_mP2deo?si=BH1C3aPfeVdeRdhF
63			Methods of formation, properties and chemical reactions _1,2 and 1,4 _additions ,Diels _ Alder reaction and polymerization reactions	https://youtu.be/82YDQcvNwYc?si=3kRrUwlb2MVszD-1
64			Structure and bonding in alkynes	https://youtu.be/nUJXDjv9NZI?si=rO23QuJHAQX_EkV7
65			Acidity of alkynes	https://youtu.be/NFAnIfBrLq4?si=EvZ7synCoqvCRoRz
66			Mechanism of electrophilic and nucleophilic reactions hydrt oxidation metal ammonia reduction oxidation and polymerization	https://youtu.be/8KDIMzS7RFs?si=olRNkkkLLeRaFbxK
67		Alkyl Halides	Methods of formation of alkyl	https://youtu.be/_eOAvy4C_50?si=25yMC7PTx5AqwCL3

			Halides, chemical reactions	
68			Methods of formation of alkyl Halides, chemical reactions	https://youtu.be/4Ej2NPjEzQg?si=B3WZGjQH4acxiVEp
69			Mechanism of nucleophilic substitution reaction of alkyl Halides SN2 and SN1 reactions with energy profile diagrams	https://youtu.be/0r61VVmh_n8?si=Q7U08r9iJzBopRc
70			Mechanism of nucleophilic substitution reaction of alkyl Halides SN2 and SN1 reactions with energy profile diagrams	https://youtu.be/tp2q4i_lKvc?si=yJrOuhgMiaYCcfDP
71		UNIT-IV Definition of Thermodynamics terms	Type of system, intensive and extensive properties	https://youtu.be/M_5rY_ChLhM?si=gKkK0aQSPAG8ZDTF
72			State and path function and their differences	https://youtu.be/glRsmF0gK9A?si=sqGTwejTjt5Aw6Y
73			Thermodynamics process, concept of heat and work	https://youtu.be/_g0waVLikcM?si=ApDt3nxGDMhDjvVO
74			Thermodynamics process, concept of heat and work	https://youtu.be/QGs7NajajFc?si=uSh0doFrrzi9QK8G
75			First law of thermodynamics	https://youtu.be/O7HwhkYt6YU?si=mlzaPkkZU_5CXz5T
76			Calculation of w q dU & dH for the expression of ideal gases under isothermal and	https://youtu.be/ejRkq3jO5DY?si=PEbRSufKavrhFo1Q

			adiabatic conditions for reversible process	
77		Thermochemistry	Standard state , standard enthalpy of formation ,Hess's law of heat summation and its applications	https://youtu.be/zgKnsGdpZV4?si=UVqKZ51dL8FJArz-
78			Heat of reaction at constant pressure and at constant volume	https://youtu.be/yvujmGW0leY?si=r58v4WGg9eoa13VZ
79			Enthalpy of neutralization	https://youtu.be/zzH5tztq5yl?si=48taWuCczq2vb5vw
80			Bind dissociation energy and its calculation from thermodynamical data, temperature dependence of enthalpy .kirchhiff' s equation	https://youtu.be/QXL_R7lldJ4?si=nBQnpvQDqdHUSWDg
81		Solutions, Dilute solutions and Colligative properties	Ideal and non ideal solutions , methods of expressing concentration of solutions, activity and activity coefficient	https://youtu.be/wmWzR7sDdQE?si=bV57kWQEc9xsoor-
82			Activity and activity coefficient	https://youtu.be/akxrHIDF-C0?si=i4oFXbv3G7iomEwC
83			Colligative properties	https://youtu.be/3uafAfDD6gA?si=9j_sjqcjQQBb3Gnc
84			Dilute solutions	https://youtu.be/VB0-vt1E3P0?si=kMUFgyi0g_c5LVeU
85			Raoult's law	https://youtu.be/KOhrVN3gbCM?si=9s0GPYN9Apa8b0_A
86			Relative lowering or vapor pressure	https://youtu.be/wofNH14Hi-I?si=rUir3jLPC7zdk3Kn

87			Molecular weight determination	https://youtu.be/_zcTFdKBUCI?si=Q_MZ42g_pMt6-fuW
89			Osmosis law of osmotic pressure and its measurement , determination of molecular weight from osmotic pressure	https://youtu.be/aSzN2_N5v_0?si=Sq1h1_VPf-vexlPd
90			Elevation of boiling point and depression in freezing point	https://youtu.be/HSg7uyAL6wM?si=-TOPap9qCNtLQ_3W
91			Thermodynamics derivation of relative between molecular weight and elevation of boiling point and depression in freezing point	https://youtu.be/rniRWyk7sqY?si=nwhzDTiBo5rmkTxn
92			Experimental methods for determining Colligative properties	https://youtu.be/0h1KITSQg_g?si=5jZDOPLFbXqsi2e
93			Abnormal molar mass, degree of dissociation and association of solutes	https://youtu.be/ZS_dVz-o3yg?si=gSR2ZkjUirPR7wps