

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

कक्षा : बी.एस-सी. भाग-दो			पाठ्यक्रम योजना : सत्र २०१७-२०१८		विषय : रसायन विज्ञान
दिनांक	व्याख्यान	प्राध्यापक का नाम	प्रश्नपत्र	अध्याय	शीर्षक
17.07.17	1	Pradeep Kumar Verma	II	Transition Elements	Introduction, position in periodic table
18.07.17	2	Pradeep Kumar Verma	II	Transition Elements	Electronic configuration
19.07.17	1	Dr. S. K. Vernwal	III	Carbohydrates	Classification
20.07.17	2	Dr. S. K. Vernwal	III	Carbohydrates	Ring structure of fructose
21.07.17	1	Dr. R Sahay	I	Thermodynamics - I	Introduction; Definition of Terms, System,
					Surrounding, Open System, Isolated System
					Intensive & Extensive Properties
22.07.17		Dr. R Sahay		CLASS TEACHING	
24.07.17	3	Pradeep Kumar Verma	II	Transition Elements	Atomic & Ionic Radii
25.07.17	4	Pardeep Kumar Verma	II	Transition Elements	Variable oxidation states
26.07.17	3	Dr. S. K. Vernwal	III	Carbohydrates	Ring Structure of Fructose
27.07.17	4	Dr. S. K. Vernwal	III	Carbohydrates	Properties of Glucose & Fuctose
29.07.17	2	Dr. R Sahay	I	Thermodynamics - I	State & path functions & their differentials,
				Thermodynamics	reversible & irreversible process
31.07.17		Dr. R Sahay		MONTHLY EVALUATION	
01.08.17	5	Pradeep Kumar Verma	II	Transition Elements	Ability to Form Complexes
02.08.17	6	Pradeep Kumar Verma	II	Transition Elements	Formation of clouredtions
03.08.17	5	Dr. S. K. Vernwal	III	Carbohydrates	Interconversions in the Carbohydrate Series
					Kiliani- Fischer Synthesis
04.08.17	6	Dr. S. K. Vernwal	III	Carbohydrates	Ruff- Degradation
05.08.17	3	Dr. R. Sahay	I	Thermodynamics - I	Concept of Heat and Work, frst law of thermo
					dynamics
08.08.17				CLASS TEACHING	
09.08.17	7	Pradeep Kumar Verma	II	Transition Elements	Magnetic (m_s & m_{eff}) Behaviour
10.08.17	8	Pradeep Kumar Verma	II	Transition Elements	Catalytic Behaviour
11.08.17	7	Dr. S. K. Vernwal	III	Aromatic Hydrocarbons	General Methods of Prepration
12.08.17	8	Dr. S. K. Vernwal	III	Aromatic Hydrocarbons	Molecular orbital structure of Benzene
13.08.17	7	Dr. R. Sahay	I	Thermodynamics - I	Concept of Internal Energy & Enthalpy, Heat
					Capacities at Constant Volumes & presssure
					& their Relationship

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16.08.17		Dr. R Sahay		CLASS TEACHING	
17.08.17	9	P. K. Verma	II	Transition Elements	General Comparative Treatment of 4D & 5D
					Elements
18.08.17	10	P. K. Verma	II	Acid base concept	Introduction, Lewis Concept
19.08.17	9	Dr. S. K. Vernwal	III	Aromatic Hydrocarbons	Aromaticity
21.08.17	10	Dr. S. K. Vernwal	III	Mechanism of Aromatic	Halogenation & Nitration
				Electrophilic Substitutions	
22.08.17	5	Dr. R. Sahay	I	Thermodynamics - I	Calculation of w, q, du & dH for the
					expansion of ideal gases under
					Isothermal condition
23.08.17		Dr. R. Sahay		CLASS TEACHING	
24.08.17	11	P. K. Verma	II	Acid Base concept	Classification of hard & soft Acids & Bases
25.08.17	12	P. K. Verma	II	Acid Base concept	Classification of hard & soft Acids & Bases
26.08.17	11	Dr. S. K. Vernwal	III	Mechanism of Aromatic	Sulphonation, Friedel-Craft's alkylation
				Electrophilic Substitutions	
28.08.17	12	Dr. S. K. Vernwal	III	Mechanism of Aromatic	Friedel-Craft's acylation
				Electrophilic Substitutions	
29.08.17	6	Dr. R Sahay	I	Thermodynamics - I	Adiabatic Conditions for a Reversible
					Process
31.08.17		Dr. R Sahay		MONTHLY EVALUATION	
01.09.17	13	P. K. Verma	II	Acid Base concept	Application of HSAB Principle
02.09.17	14	P. K. Verma	II	Acid Base concept	Application of HSAB Principle
05.09.17	13	Dr. S. K. Vernwal	III	Mechanism of Aromatic	Orientation in aromatic Substitution
				Electrophilic substitutions	
06.09.17	14	Dr. S. K. Vernwal	III	Mechanism of Aromatic	Ortho-para ratio
				Electrophilic substitutions	
07.09.17	7	Dr. R. Sahay	I	Thermodynamics	Standard state, standard enthalpy of
					formation
08.09.17		Dr. R Sahay		CLASS TEACHING	
09.09.17	15	P. K. Verma	II	Coordination compounds	Introduction definition & classification of

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					Ligands
11.09.17	16	P . K . Verma	II	Coordination compounds	Werner's Postulates
12.09.17	15	Dr. S . K . Vernwal	III	Aromatic Halogen	Types of aromatic halogen compounds
				Compounds	Chlorobenzene
13.09.17	16	Dr. S . K . Vernwal	III	Aromatic Halogen	Benzyl chloride
				Compounds	
14.09.17	8	Dr. R. Sahay	I	Thermodynamics - I	Hess's law of constant heat summation & its
					applications
15.09.17		Dr. R. Sahay		CLASS TEACHING	
16.09.17	17	Dr. S . K . Vernwal	III	Aromatic Nitro Compounds	Nitro benzene, Reduction of nitrobenzene
18.09.17	18	Dr. S . K . Vernwal	III	Aromatic Nitro Compounds	m-Dinitro benzene, T.N.T.
19.09.17	9	Dr. R. Sahay	I	Thermodynamics - I	Heat of reaction at constant pressure &
					constant volume, bond dissociation, energy
21.09.17	10	Dr. R. Sahay	I	Thermodynamics - I	Calculation from thermodynamical data,
					Kirchhoff's equation
22.09.17	17	Pradeep Kumar Verma	II	Coordination compounds	Sidwick's effective atomic number concept
23.09.17		Pradeep Kumar Verma		MONTHLY EVALUATION	
25.09.17	19	Dr. S . K . Vernwal	III	Aromatic Amino Compounds	Aniline
				& Diazonium Salts	
26.09.17	20	Dr. S . K . Vernwal	III	Aromatic Amino Compounds	Benzylamine
				& Diazonium Salts	
27.09.17	11	Dr. R. Sahay	I	Thermodynamics - I	Second law of thermodynamics, concept of
					entropy, entropy as a state function
03.10.17	12	Dr. R. Sahay	I	Thermodynamics II	Entropy as a function of U & T, entropy as a
					function of P & T, entropy change in
					physical process
04.10.17	18	Pradeep Kumar Verma	II	Coordination compounds	Valence bond theory
06.10.17		Pradeep Kumar Verma		CLASS TEACHING	
07.10.17	27	Dr. S . K . Vernwal	III	Aromatic Amino Compounds	Basicity of Aniline & Toluidines
				& Diazonium Salts	

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09.10.17	22	Dr. S. K. Vernwal	III	Aromatic Amino Compounds	Benzene diazonium chloride
				& Diazonium Salts	
10.10.17	13	Dr. R. Sahay	I	Thermodynamics-II	Gibbes & Helmholtz Function :Criteria for
					thermodynamics Equilibrium & spontaneity
					in term of change in Entropy
11.10.17	14	Dr.Ram Sahay	I	Thermodynamics-II	Equilibrium constant & free energy
12.10.17	19	Pradeep Kumar Verma	II	Coordination compounds	Valance bond theory
13.01.17		Pradeep Kumar Verma		CLASS TEACHING	
14.10.17	23	Dr . S . K . Vernwal	III	Aromatic Amino compounds	Synthetic uses of Benzene diazonium
				& Diazonium Salts	chloride
16.10.17	24	Dr . S . K . Vernwal	III	Aromatic Amino compounds	Benzene sulphonic acid, Sulphanilic acid
				& Diazonium Salts	
23.10.17	15	Dr. R. Sahay	I	Chemical Equilibrium	Thermodynamics Derivation of Law of Mass
					Action , Le-Chatelier's principle
24.10.17	16	Dr. R. Sahay	I	Electrochemistry-I	Electrical Transport- Conduction in Metals
					in Electrolyte Solution Specific Conduction
25.10.17	20	Pradeep Kumar Verma	II	Coordination Compounds	Chelate effect
26.10.17		Pradeep Kumar Verma		MONTHLY EVALUATION	
27.10.17	25	Dr . S . K . Vernwal	III	Aromatic Amino compounds	Saccharine & Chidramine-T
				& Diazonium Salts	
28.10.17	26	Dr . S . K . Vernwal	III	Phenols	Acid Charecter, Reactions of Phenols
30.10.17	17	Dr. R. Sahay	I	Electrochemistry-I	Equivalent Conductance, Measurement of
					Equivalent Conductance variation of
					Equivalent & Specific Conductance with
					dilution
31.10.17	18	Dr R.Sahay	I	Electrochemistry-I	Migration of ions & Kohlrausch law Arrhenius
					theory of electrolyte dissociation& its
					limitation
01.11.17	21	Pradeep Kumar Verma	II	Coordination compounds	Nomenclature of only mono and dinuclear
02.11.17		Pradeep Kumar Verma		CLASS TEACHING	

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03.11.17	27	Dr.S.K.Vernwal	III	Phenols	Picric acid
06.11.17	28	Dr.S.K Vernwal	III	Aromatic alcohols,	Benzaldehyde & salicyldehyde
				Aldehydes & Ketones	
07.11.17	19	Dr. R. Sahay	I	Electrochemistry-I	Weak & Strong Electrolytes, Ostwald's
					Dilution Law
08.11.17	20	Dr.R. Sahay	I	Electrochemistry-I	Its uses & limitations
10.11.17	27	Pradeep Kumar Verma	II	Coordination compounds	Stereochemistry of coordination no.2,4 & 6
11.11.17		Pradeep Kumar Verma		CLASS TEACHING	
13.11.17	29	Dr. S . K. Vernwal	III	Aeromatic alcohols,	Acetophenone & Benzophenone
				Aldehydes & Ketones	
14.11.17	30	Dr . S . K . Vernwal	III	Aromatic Acids	Prepration & properties of Cinnamic acid
15.11.17	21	Dr. R. Sahay	I	Electrochemistry-I	Deby-Huckle-Onsager's equation for strong
					Electroiytes
16.11.17	22	Dr. R.Sahay	I	Electrochemistry-I	Activity & Activity Coefficient, Transport
					number, Definition & Determination by Hittorf
					Method & moving Boundary Method
17.11.17	31	Dr. S . K . Vernwal	III	Aromatic Acids	Phthalic acid & Salicylic acid
18.11.17		Dr. S. K. Vernwal		CLASS TEACHING	
20.11.17	23	Dr. R. Sahay		Electrochemistry-I	Application of conductivity meas rements
					determination of degree of dissociation,
					Determination of Ka of acids
21.11.17	24	Dr. Ram Sahay		Electrochemistry-I	Determination of solubility product of a
					sparingly Soluble Salt, Conductometric titration
22.11.17	23	Pradeep Kumar Verma	II	Coordination compounds	[Ag(NH ₃) ₂] ⁺ , [Ag(CN)], [Ni(CN) ₄]
23.11.17	24	Pradeep Kumar Verma	II	Coordination compounds	[Cu(NH ₃) ₂] ₂ ⁺ , [Zn(NH ₂) ₂] ²⁺ , [MnO ₄] ⁻
24.11.17	32	Dr. S . K . Vernwal	III	Aromatic Acids	Acids strength of benzoic acid and
					substituted benzoic acids
25.11.17		Dr.S.K.Vernwal		MONTYHLY EVALATION	
27.11.17	25	Dr.R.Sahay	I	Electrochemistry - II	Types of reversible electrodes, gas, metal -
					metal ion, metal insoluble salt - anion & redox

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					electrodes
28.11.17	28	Dr. R. Sahay	I	Electrochemistry-II	Electrode reaction, Nernst equation
					derivation of cell E.M.F
29.11.17	25	Pradeep Kumar Verma	II	Coordination compounds	$[\text{Fe}(\text{CN})_6]^{3-}$, $[\text{Fe}(\text{CN})_6]^{4-}$, $[\text{FeF}_6]^{3-}$
30.11.17	26	Pradeep Kumar Verma	II	Coordination Compounds	$[\text{Fe}(\text{H}_2\text{O})_6]^{3+}$, $[\text{Fe}(\text{C}_2\text{O}_4)_2]^{3-}$, $[\text{Co}(\text{NH}_3)_6]^{3+}$
01.12.17	33	Dr . S . K. Vernwal	III	Polynuclear Hydrocarbons	Non condensed system: Biphyeyl
02.12.17		Dr . S . K. Vernwal		CLASS TEACHING	
03.12.17	27	Dr.R.Sahay	I	Electrochemistry - II	Single electrode potential, standard hydrogen electrode, reference electrode, standard
					electrode potential
06.12.17	28	Dr.R.Sahay	I	Electrochemistry -II	Sign conventions, electrochemical series & its
					significance, electrolyte, Galvanic cells
07.12.17	27	Pradeep Kumar Verma	II	Coordination compounds	$[\text{Co}(\text{en})_3]^{3+}$, $[\text{Ni}(\text{NH}_3)_6]^{2+}$, $[\text{PbCl}]^{2-}$
08.12.17	28	Pradeep Kumar Verma	II	Coordination compounds	Isomerism
09.12.17	34	Dr.S.K.Vernwal	III	Polynuclear Hydrocarbons	Condensed system: Naphthalene
11.12.17		Dr.S.K.Vernwal		CLASS TEAHING	
12.12.17	29	Dr.R. Sahay	I	Electrochemisrty - II	Reversible & Irreversible cells conventional
					representation of electrochemical cells
13.12.17	30	Dr.R. Sahay	I	Electrochemistry - II	EMF of a cell & its measurement computation
					of cell EMF calculation of theromodynamics quantities of cell reaction (ΔG , ΔH & K)
14.12.17	29	Pradeep Kumar Verma	II	Coordination compunds	Various types of isomerism
15.12.17	30	Pradeep Kumar Verma	II	Coordination compunds	Stereoisomerism in CN-4 & CN-6
16.12.17	35	Dr.S.K.Vernwal	III	Polynuclear Hydrocarbons	Naphthols & Naphthyl amines
18.12.17		Dr.S.K.Vernwal		CLASS TEACHING	
19.12.17	31	Dr.R..Sahay	I	Electrochemisrty - II	Concentration cell with & without, transport
					liquid junction potential application of
					concentration cells
20.12.17	32	Dr.R. Sahay	I	Electrochemistry - II	Valency of ions solubility product & activity

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					coefficient of potentiometric
					titration, definition of pH & pKa
21.12.17	31	Pradeep Kumar Verma	II	Non- Aqueous solvents	General Introduction classification of solvents
22.12.17	32	Pradeep Kumar Verma	II	Non- Aqueous solvents	Characterstic proportion of solvents
23.12.17	36	Dr.S.K.Vernwal	III	Heterocyclic Compunds	Preparation & properties of furan
26.12.17		Dr.S.K.Vernwal		MONTHLY EVALUATION	
27.12.17	33	Dr.R. Sahay	I	Eletrochemistry - II	Determiniation of pH using hydrogen
					Quinhydrone & glass electrod by potentiometric methods
28.12.17	34	Dr.R. Sahay	I	Electrochemistry - II	Buffer- mechanism of buffer action,
					Henderson - Hazel equation , hydrolysis of
					salts, electrochemical corrosion & its
					prevention
29.12.17	33	Pradeep Kumar Verma	II	Non - aqueous solvents	Chemical Reaction Occuring in Liquid
					Ammonia
30.12.17	34	Pradeep Kumar Verma	II	Non - aqueous solvents	Chemical Reaction Occuring in Liquid
					Ammonia
01.01.18	37	Dr . S . K. Vernwal	III	Heterocyclic Compounds	Pyrrole & Thiophene
03.01.18	35	Dr. R. Sahay	I	Phase Equilibrium	Phase component & degeree of freedom
					derivation of gibbs phase rule
04.01.18	36	Dr.R. Sahay	I	Phase Equilibrium	Phase equilibrium of one component system,
					water, supher & hellium
05.01.18	35	Pradeep Kumar Verma	II	Non - Aqueous solvents	Chemical reactions occuring in liquid SO ₂
06.01.18	36	Pradeep Kumar Verma	II	Non - Aqueous solvents	Chemical reactions occuring in liquid SO ₂
08.01.18	38	Dr.S.K.Vernwal	III	Heterocyclic Compounds	Pyridine
09.01.18		Dr.S.K.Vernwal		CLASS TEACHING	
10.01.18	37	Dr.R. Sahay	I	Phase Equilibrium	First & second order phase transitions
					Phase equilibrium of two component system
11.01.18	38	Dr. R. Sahay	I	Phase Equilibrium	Solid - liquid equilibria, simple eutectic, Pb -
					Ag system

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12.01.18	37	Pradeep Kumar Verma	II	Non- Aqueous solvents	Chemical reactions occuring in liquid SO
16.01.18	38	Pradeep Kumar Verma	II	Concept of electrode	EMF Diagram
				potential	
17.01.18	39	Dr.S.K.Vernwal	III	Numericals Problems	Detrminations of structure based on chemical
					reactions
18.01.18		Dr.S.K.Vernwal		CLASS TEACHING	
19.01.18	39	Dr.R. Sahay	I	Phase Equilibirium	Desilverisation of lead
20.01.18	40	Dr.R. Sahay	I	Phase Equilibrium	System involving compound formation with a congruent melting point (Mg-Zn)
22.01.18	39	Pradeep Kumar Verma	II	Concept of electrode	EMF diagram & their utility
				potential	
23.01.18	40	Pradeep Kumar Verma	II	Concept of electrode	EMF diagram & their utility
				potential	
24.01.18	40	Dr.S.K.Vernwal	III	Numerical Problems	Determination of structure based on chemical
					reaction
25.01.18		Dr.S.K.Vernwal		MONTHLY EVALUATION	
27.01.18	41	Dr.R. Sahay	I	Phase Equilibrium	Incongruent meltin point($\text{CuSO}_4\text{-H}_2\text{O}$)
29.01.18	42	Dr.R. Sahay	I	Phase Equilibrium	Nernst distribution law & its thermodynamic
					derivation
30.01.18	40	Pradeep Kumar Verma	II	Concept of electrode	Numerical problems
				potential	
31.01.18	41	Pradeep Kumar Verma	II	Concept of electrode	Numerical problems
				potential	