Kasidih High School – A Unit of JEM Foundation
Syllabus Plan For Session – 2010 – 11

Subject :- Chemistry Std :- XII

Sl. No.	Name of Chapter	Topics	No. of Periods
01.	Solid State	(a) Classification of Solid, Unit cell, Basic crystal system& Bravais lattices.	3
		(b) Density of Unit cell	2
		(c) Packing in Solids, Voids, Packing efficiency	3
		(d) Ionic solids & radius ratio, crystal defects	2
		(e) Electrical & magnetic properties of solids.	1
02.	Solutions	(a) Types of solutions, Gas liquid solutions	2
		(b) Liquid - liquid solutions – Ideal and non ideal solutions	2
		(c) Solid – liquid solutions, Colligative properties – V.P lowering, Osmotic Pressure, Boiling Point Elevation, Freezing Point depression	4
		(d) Abnormal colligative properties & Vant Hoff factor	2
03.	Electrochemistry	(a) Conductance in electrolyte solution, specific & molar conductance Kohlrausch's law	3
		(b) Faraday laws of electrolysis	2
		(c) Electrolytic & electrochemical cells, EMF, Electrode potential, Nernst's equation. Cell & batteries, fuel cells	4
		(d) Corrosion	2
04.	Chemical Kinetics	(a) Rate of reactions, factors, rate law, rate constant, order and molecularity	3
		(b) Integrated rate equations for O^{th} and 1^{st} order reactions	3
		(c) Collision theory, Arrheneus equation, Activation energy	4
05.	Surface chemistry	(a) Adsorption – physisorption & chemisorption, factors influencing adsorption, Freundlich's isotherm, application	3
		(b) Catalysis, – characteristics, homogeneous, heterogeneous & Enzyme catalysis	3
		(c) Colloids - distinction between true solution, colloidal solution & suspension, classification on the basis of physical state, affinity for medium & molecular state,	4

		properties of colloids, emulsions	
06.	Principle of isolation of elements	(a) Concentration, oxidation, reduction & electrolytic methods of extraction. refining	4
		(b) Occurrence & principle of extraction of Al, Cu, Zn & Fe	4
07.	p Block elements	(a) Gr 15 – Periodicity in physical & chemical properties, Nitrogen – preparation, properties, uses, manufacture, properties & uses of NH_3, HNO_3, structure of nitrogen oxides, Phosphorous - allotrops, Preparation and properties of PH_3, Phosphorous halides, Oxides & Oxoacids.	6
		(b) Gr 16 – periodicity in physical & chemical properties, dioxygen, oxides, ozone, Sulphur - allotrops, preparation, properties & uses of SO_2, H_2S, H_2SO_4 & strength of oxoacids of sulphur	5
		(c) Gr 17 – Periodicity in physical & chemical properties – preparation, Properties & uses of Cl_2, HCl. Interhalogens, structure of oxoacids of halogens.	4
		(d) Gr 18 – Introduction, periodicity compounds of Xe, uses	2
08.	d & f block elements	(a) d – block – trends in properties with respect to occurrence, metallic nature, I.E., O.S. ionic radii , magnetic & colour properties , formation of interstitial compounds catalytic properties and alloys.	4
		(b) preparations, properties & uses of $K_2Cr_2O_7$ & $KMnO_4$.	2
		(c) f – block - Discussion of electron configuration, O.S. reactivity of lanthanoids & actinoids, lanthanoid contraction & its consequences..	4
09.	Coordination compounds	(a) Double salts & complex salts concept of ligands, C.N., Coordination & ionization sphere	2
		(b) Nomenclature by IUPAC	1
		(c) Werner’s theory	1
		(d) VBT	2
		(e) CFT	2
		(f) Isomerism, Applications	2
10.	Haloalkanes & haloarenes	(a) Haloalkanes - preparation & properties	3
		(b) Stereoisomerism, Optical activity	2
		(c) Mechanism of S_N1 & S_N2 reaction	1
		(d) Haloarens – preparation & properties	2
		(e) Uses & effects of CH_2Cl_2, $CHCl_3$, CCl_4, CHI_3, freons & DDT	2
11.	Alcohols, Phenols &	(a) Alcohols – preparation & properties, Distiction of 1^0, 2^0 & 3^0 – alcohols, Methanol	4

	Ethers	& Ethanol	
		(b) Phenols – preparation & properties, uses	3
		(c) Ethers – Preparation & properties & uses	3
12.	Aldehydes, Ketones & Carboxylic acids	(a) Aldehydes & ketones – Nomencleature, preparation & properties & mechanism of nucleophilic addition - uses	6
		(b) Carboxylic acids – Nomenclature – Preparation & properties & uses, Functional derivatives (elementary)	6
13.	Organic compounds containing Nitrogen	(a) Amines – preparation, properties & uses	3
		(b) Identification of 1^0, 2^0, 3^0 - amines	1
		(c) Cyanides & isocyanides – preparation & properties with respect to synthetic uses.	2
		(d) Diazonium salts – preparation , reaction & synthetic uses	2
14.	Biomolecules	(a) Carbohydrates – classification, structure of monosaccharides (glucose & fructose), disaccharides (sucrose, maltose & lactose) & polysaccharides (starch, cellulose & glycogen)	4
		(b) Proteins – Amino acids, peptides & polypeptides, primary, secondary & tertiary structure of proteins, denaturation	2
		(c) Enzymes, Vitamines	1
		(d) Classification & function of nucleic acid – structure of DNA & RNA	2
15.	Chemistry in everyday life	(a) Medicinal compounds, food preservatives, artificial, sweetners, cleaning agents – soaps & detergents	4

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Subject :- Mathematics Std :- XII

Sl. No.	Name of Chapter	Topics	No. of Periods
01.	Relations & functions (22 prd)	(a) 1. Types of relations	2
		2. Types of function(One to one, On to , Composite functions, Inverse of functions etc.)	5
		3. Binary operation & solving problems	3
		(b) Inverse trigonometrical function. 1. Defination, range & domain	4
		2. Principal value, graph of triginometrical function, elementary properties	3
		3. Proof of different formula & solving problems	4
02.	Algebra (38 prd)	(a) Matrices 1. Concept	3
		2. Types	
		3. Orders	3
		4. Operation – addition, substraction & multiplication,Adjoint,Inverse	12
		(b) Determinant 1. Properties	3
		2. Consistancy	3
		3. Area of triangle	3
		4. Cramer's Rule	4

		5. Problem solving	5
03.	Calculas(68 prd)	(a) Continuity & differentiability	
		1. Meanings	2
		2. Derivation of composite functions	2
		3. Chain rule	2
		4. Derivation of inverse trignometrical functions	2
		5. Inplicit functions	1
		6. Exponential logarithmic parametnic function.	2
		7. Method of variation of parameter	1
		8. 2^{nd} order derivation	2
		9. Rolle's & LMV theorem (without proof)	2
		(b) Application of derivatives	
		1. Rate of change (rate measures)	2
		2. Increasing and decreasing	2
		3. Tangents & normal	2
		4. Approximation	2
		5. Maxima & minima	4
		(c) Integration	
		1. Direct application of integration	2
		2. Methods of integration	4
		3. Special integration	2
		4. Partial fraction	2
		5. Definite integration	5
		6. Limits as sum	2
		7. Fundamental theorem (Properties & integration)	3
		(d) Application of integration	
		1. Rough sketching the curve and finding area	2
		2. Enclosed area	8
		(e) Differential equation	
		1. Order & degree	1
		2. Particular solution	1
		3. Formation of different equation	2
		4. Methods (separable variable, homogeneous equation, linear equation)	6
04.	Vector & three dimension (24 prd)	(a) Vector	
		1. Defination of vector & scalar	1
		2. dr's & d.c.s.	1
		3. Types and properties	2
		4. dot & cross product	2
		5. Projection & simple application	6
		(b) 3 D Geometry	
		1. Straight lines :- vectors cartesian formula	5

		2. Changing from vector& cartesian and vice versa in plain	5
		3. Shortest distance in plane.	2
05.	Linear programming (12 Prd)	(a) Data formation	2
		1. Graphical representation	2
		2. Feasible and none feasible	4
		3. Optimal solution (maximization and minimization) by graphical method	6
06.	Probality (16 prd)	(a) General probability	4
		(b) Conditional probability	2
		(c) Total probability (multiplication theorem [application])	3
		(d) Baye's theorem (application)	3
		(e) Probability distribution (mean, variance, standard deviation)	2
		(f) Binomial distribution	2

Note :- According to CBSE syllabus total period allotted for Mathematics in a whole session is 182.

Kasidih High School – A Unit of JEM Foundation

Syllabus Plan For Session – 2010 – 11

Subject :- Mathematics Std :- XI

Sl No	Name of chapter	Topics	No. of periods
01.	Sets and functions (26 prd)	(a) Sets	
		1. Definition and its representation.	4
		2. Types of set	2
		3. Operation of sets (union, intersection, different complements of set)	6
		(b) Relation and function	
		1. Types of relation	2
		2. Example of relation	2
		3. Cartesian product of function	4
		4. One one on to function & solving problems	6

02.	Algebra (58 prd)	(a) Mathematical induction	6
		(b) Complex nos. quadratic equation :- definition of formula, solving problems	10
		(c) Linear inequalities :- one variable two variable	10
		(d) Permulation and combination	12
		(e) Binomial theorem :- proof & solution, application	10
		(f) Sequences of series	
		1. A.P, A.M, G.P, G.M	6
		2. Relation between AM and GM	2
		3. Special series and sequences	2
03.	Coordinate geometry (29 prd)	(a) Straight line	
		1. All 5 main form of lines up to distance from length of perpendicular	5
		2. Solving problems	4
		(b) Conic sections	
		1. Circle	2
		2. Parabola	2
		3. Ellipse	2
		4. Hyperbola	2
		5. Standard equation of all derivation and simple application of conic section	4
		(c) 1. Introduction to 3 – dimentional geometry	3
		2. Co ordinate axes	2
		3. Distance and section formula	3
04.	Calculas (18 prd)	(a) Limits and derivatives	
		1. Inductive idea of limit	4
		2. Rules of differentiation	5
		3.Derivation of polynomial and trignometrical equation	3
		4. First principle of differentiation and solving problems. (Derivation of all 10 properties)	6
05.	Mathematical Reasoning (8 prd)	(a) Statement	2
		(b) Connectors :- and, or, if & then etc.	6
06.	Statistics & Probability (20 prd)	(a) Statistics	10
		1. Measures of dispertion	2
		2. Mean deviation	2
		3. Variance	2
		4. Analysis of frequency, distribution of grouped & ungrouped data & solving	4

		problem	
		(b) Probability	101234 5`
		1. Probability of an event	3
		2. Probability of not, and , or event	3
		3. Multiplication theorem & solving problems	4

Note :- According to CBSE syllabus total periods = 159