SRI LANKAN SCHOOL MUSCAT	SCHEME OF WORK-CHEMISTRY	ACADEMIC YEAR 2016/2017		
CLASS- 10R/10G	SUBJECT - CHEMISTRY	TEACHER - MR.JAGATH RANASINGHE		
MONTH SEPTEMBER	UNIT 1	TOPICS PRINCIPLES OF CHEMISTRY	INTENDED LEARNING OBJECTIVES	Remarks
	A)	States Of Matter		
Week 1	1.1	Arrangement & Movement Of The Particles In Solid, Liquid & Gaseous States	Describe the inter changes of physical state of matter using particle theory.	
	1.2 & 1.3	Interconversions Of The 3 States Of Matter		
	B)	Atoms		
Week 2	1.4	Dilution & Diffusion Explained Together With Demonstrations	Explain the examples of movements of particles such as diffusion etc...	
	1.5	Introduction To Atoms & Molecule		
	1.6	Difference Between Elements, Compounds & Mixtures		
	C)	Atomic Structure		
Week 3	1.9	Structure Of Atoms	Explain the arrangement and the properties of sub atomic particles. Draw and write the electronic configuration of atoms and ions of 1st 20 elements in the periodic table.	
	1.10 & 1.11	Atomic Number, Mass Number & Relative Masses Of Sub-Atomic Particles		
Week 4	1.13	Arrangement Of The Periodic Table		
	1.14 & 1.15	Electronic Configurations		
		Assessment		
	E)	Chemical Formulae And Chemical Equations		
Week 5	1.21	Word Equations And Chemical Equations	Write word and chemical equations for chemical reactions	
	1.22	Introduction To State Symbols		
OCTOBER				
	F)	Ionic Compounds		
Week 6	1.28	Formation Of Ions	Describe oxidation and reduction by means of movement of electron transfer. Represent ionic bonds using dot-cross diagrams. List out the properties of substances with different type of bonds and structures	
	1.29	Oxidation & Reduction		
	1.30 & 1.31	Deducing Charges Of Ions		
	1.32	Formation Of Ionic Compounds Using Dot-Cross Diagrams		
	1.33	Ionic Bonding		
Week 7	1.34	Properties Of Ionic Compounds		
	1.35	Relationship Between Charge And Melting Points & Boiling Points		
	1.36 & 1.37	Lattice Structure Of Ionic Compounds		
		Assessment		
	G)	Covalent Substances		
Week 8	1.38 & 1.39	Formation Of Covalent Bonds	Represent covalent bonds using dot-cross diagrams. List out the differences between graphite and diamond with bonds structures.	
	1.40	Dot-Cross Diagrams Of Covalent Substances		
	1.41-1.43	Melting Points And Covalent Bonds		
	1.44	Structures Of Diamond And Graphite		
	1.45	Uses Of Diamond And Graphite		

	H)	**Metallic Crystals**		
Week-9	1.46	Structure Of Metals	Explain the nature of metallic lattice and properties	
	1.47	Conductivity & Malleability Of Metals		
	1.48	Electric Current And Flow Of Electrons/Ions		
	1.49	Conductivity Of Covalent Compounds		
	1.50	Conductivity Of Ionic Compounds		
NOVEMBER				
	I)	**Electrolysis**		
Week - 10	1.51	Electrolytes And Non-Electrolytes	Identify the flow of electrons and the current in an electrolytic cell and name the products of electrolysis when the electrotolte and the material of the electrodes are given. Write the anode and cathode reactions	
	1.55	Half Ionic Equations		
	2	Chemistry Of The Elements		
	B)	**Group 1 Elements**		
	2.6	Reactions Of Group 1 Elements With Water	List out the properties of group I elements and write equations for the reaction of them.	
	2.7 & 2.8	Reactivity Of Group 1 Elements		
	C)	**Group 7 Elements**		
Week 11	2.9	Colours And Physical States Of Halogens	List out the properties of group VII elements and write equations for the reaction of them. Identify the element and the physical state by the colour. Predict the name of the acid when the name of the halogen halide is given	
	2.10	Predicting The Properties Of Halogens		
	2.11	Difference Between HCl Gas & HCl Acid		
	2.12	Acidity Of HCl And Methylbenzene		
Week 12	2.13	Reactivity Of Group 7 Elements		
	2.14 & 2.15	Displacement Reactions Of Halogens And The Relationship With Redox		
		Assessment		
	D)	**Oxygen And Oxides**		
Week 13	2.16	Gases And The Percentage In Air	Explain the methods of preparation and identification of gases. Describe the properties of gases and the friendly and harmful effects of them.	
	2.17	Experiments To Determine The Percentage Of Oxygen In Air		
	2.18	Laboratory Preparation Of Oxygen		
	2.19	Reactions Of Magnesium, Carbon & Sulfur With Oxygen		
	2.20	Laboratory Preparation Of Carbon-Dioxide		
Week 14	2.21	Formation Of Carbon-Dioxide From Thermal Decomposition	Explain the methods of preparation and identification of gases. Describe the properties of gases and the friendly and harmful effects of them.	
	2.22	Properties Of Carbon-Dioxide		
	2.23	Uses Of Carbon-Dioxide		
	2.24	Effects Of Carbon-Dioxide On The Environment		

DECEMBER				
Week 15		Revision		
		First term test		
Week 16		First term test		
Week 17		Paper correction and Reports Distribution		
Week 18		Christmas Vacation		
JANUARY				
Week 19		Christmas Vacation		
Week 20		School Reopen		
		Discussion of first term paper		
	E)	**Hydrogen And Water**		
	2.25	Reactions Of Metals With Dilute Acids		
	2.26	Combustion Of Hydrogen		
	2.27	Use Of Anhydrous CuSO4 For Testing The Presence Of Water		
	2.28	Physical Test To Show The Purity Of Water		
Week 21	**F)**	**Reactivity Series**		
	2.29	Order Of The Reactivity Series	Predict the place of the metal depending on the reactions with water, air and dilute acids. Explain the chemistry of rusting in oder to prevent the harmful effects.	
	2.30	Reactions With Water To Predict The Reactivity		
	2.31	Displacement Reactions To Predict The Reactivity		
	2.32	Relationship Of Oxygen To Redox		
	2.33	Redox Reagents		
	2.34	Rusting Of Iron		
	2.35	Prevention Of Rust		
	2.36	Sacrificial Protection		
		Assessment		
Week 22	**G)**	**Tests For Ions & Gases**		
	2.37	Describing Tests For Cations	Identify the compounds using the tests for anions and cations and further techniques.	
	2.38	Describing Tests For Anions		
	2.39	Describing Tests For Gases		
	1.7	Techniques Used For Separating Mixtures		
	1.8	Interpretation Of Chromatographs		
		Assessment		
	3	**Organic Chemistry**		

Week 23	A)	**Introduction**		
	3.1	Explaining Terms - Homologous Series, Hydrocarbons, Saturation & Isomerism		
	B)	**Alkanes**		
	3.2	General Formula Of Alkanes	Write the displayed and structural formula of isomers of alkanes. Write the products of combustion and halogenation of alkanes.	
	3.3	Displayed Formula Of Alkanes		
	3.4	Combustion Of Alkanes		
	3.5	Substitution Reaction Of Methane With Bromine Under Uv Light		
FEBRUARY				
Week 24	C)	**Alkenes**		
	3.6	General Formula Of Alkenes	Write the displayed and structural formula of isomers of alkenes. Write the products of combustion and halogenation of alkenes.	
	3.7	Straight Chain Isomers & Their Names		
	3.8	Addition Reactions Of Bromine		
Week 25	D)	**Ethanol**		
	3.9	Manufacture Of Ethanol By Catalytic Conversion	Compare the production of alcohols by catalytic conversion and fermentation. Write the products of dehydration of ethanol	
	3.10	Manufacture Of Ethanol By Fermentation		
	3.11	Compare The Above Two Methods		
Week 26	3.12	Dehydration Of Ethanol To Ethane		
		Assessment		
	4	**Physical Chemistry**		
	A)	**Acids, Alkali & Salts**		
Week 27	4.1	Usage Of Indicators To Identify Acidity/Basicity	Define the acids and bases. Predict the products of acid metal and acid metal carbonate reaction using balanced equation. Explain the procedure of a simple acid base titration. Explain the procedure to produce different types of salts.	
	4.2	Classification Of Acids/Bases As Strong Or Weak		
	4.3	Use Of Universal Indicator		
MARCH				
Week 28	4.4	Introduction To H+ And Oh- Ions		
	4.5	Predicting The Products When Acids React With Metals & Metal Compounds		
	4.6	Solubility Of Salts In Water		
Week 29	4.7	Preparation Of Soluble Salts From Acids		
	4.8	Precipitation Reaction		
	4.9	Acid- Alkali Titrations		
		Assessment		

		Demonstration Of The Solubility Of Salts		
		Demonstration Of Acid-Alkali Titrations		
Week 30		Revision		
Week 31		Second term test		
APRIL				
Week 32		Paper correction and Distribution of answer scripts and PTI		
Week 33		New Year Vacation		
Week 34		End of the Vacation and school Reopened		
Week 35		Discussion of second term paper		
MAY				
	A)	**Acids, Alkali & Salts**		
Week 36	4.1	Usage Of Indicators To Identify Acidity/Basicity	Define the acids and bases. Predict the products of acid metal and acid metal carbonate reaction using balanced equation. Explain the procedure of a simple acid base titration. Explain the procedure to produce different types of salts.	
	4.2	Classification Of Acids/Bases As Strong Or Weak		
	4.3	Use Of Universal Indicator		
Week 37	4.4	Introduction To H+ And Oh- Ions		
	4.5	Predicting The Products When Acids React With Metals & Metal Compounds		
Week 38	4.6	Solubility Of Salts In Water	Explain the procedure of a simple acid base titration. Explain the procedure to produce differnt types of salts.	
	4.7	Preparation Of Soluble Salts From Acids		
Week 39	4.8	Precipitation Reaction		
	4.9	Acid- Alkali Titrations		
		Assessment		
	C)	**Rates Of Reaction**		
	4.17	Experimental Work To Investigate The Rate	Calculate the rate of a reaction using graphical representation. Explain the factors affect the rate of a chemical reaction.	
week 40	4.18	Factors Affecting The Rate Of A Reaction		
	4.19	Activation Energy		
	4.20	Explain The Effect Using Particle Collision Theory		
JUNE				
Week 41	4.21	Effect Of Catalysts On The Rate		
		Assessment		
	D)	**Equilibria**		
	4.22	Introduction Ro Reversible Reactions		

	4.23	Examples Of Reversible Reactions	Explain the concept of dynamic equilibrium. Predict the rate and yield of a reversible reaction when the temperature catalyst and pressure are changed	
Week 42	4.24	Concept Of Dynamic Equilibrium		
	4.25	Effect Of Temperature & Pressure On Equilibrium Reactions		
	4.26	Experiments To Show Effect Of Temperature On Equilibrium Reactions		
	Revision And Third Term test begins			
Week 43	Third term test			
Week 44	Paper Correction			
JULY				
Week 45	Paper correction / Distribution of answer scripts and PTI /Summer Vacation Begins			