SCHEME OF WORK FORM TWO CHEMISTRY TERM ONE 20………

WK NO.	L/ NO	TOPIC/ SUBTOPIC	LESSON / SPECIFIC OBJECTIVES	TEACHING / LEARNING ACTIVITIES	MATERIALS / RESOURCES	REFERE-NCES	REMARKS
1	1	**THE STRUCTURE OF THE ATOM & THE PERIODIC TABLE** Atomic and mass numbers.	**By the end of the lesson, the learner should be able to**: Name the subatomic particles in an atom. Define atomic number and mass number of an atom. Represent atomic and mass numbers symbolically.	Exposition on new concepts; Probing questions; Brief discussion.		*K.L.B. BOOK II* *PP. 1-3*	
	2	First twenty elements of the periodic table.	List the first twenty elements of the periodic table. Write chemical symbols of the first twenty elements of the periodic table.	Expository approach: referring to the periodic table, teacher exposes the first twenty elements. Writing down a list of first twenty elements of the periodic table.	Periodic table.	*K.L.B. BOOK II* *PP. 1-3*	
	3	Isotopes.	Define isotopes.		Periodic table.	*K.L.B.*	

	& 4	 Electronic configuration.	Give examples of isotopes. Represent isotopes symbolically. Define an energy level. Describe electronic configuration in an atom.	Exposition of definition and examples of isotopes. Giving examples of isotopes. Exposition – teacher exposes new concepts about electronic configuration. Written exercise.		*BOOK II* *P. 4* *PP. 5-8*	
2	1	Electronic configuration in diagrams.	Represent electronic configuration diagrammatically.	Supervised practice; Written exercise.		*K.L.B.* *BOOK II* *PP. 5-8*	
	2	Periods of the periodic table.	Identify elements of the same period.	Exposition – Definition of a period. Q/A: Examples of elements of the same period.	Periodic table.	*P. 9*	
	3	Groups of the periodic table.	Identify elements of the same period.	Exposition – definition of a group. Q/A: examples of elements of the same group.	Periodic table.	*P. 9*	
	4	R.M.M. and isotopes.	Calculate RMM from isotopic composition. To describe relative abundance of isotopes of an element.	Teacher exposes definition of R.M.M. Worked examples.		*PP. 11-13*	

3	1	R.M.M. and isotopes.	Calculate R.M.M. from isotopic composition.	Supervised practice involving calculation of RMM from isotopic composition.		*PP. 11-13*	
	2	Positive ions and ion formation.	To define an ion and a cation.	Teacher gives examples of stable atoms. Guided discovery that metals need to lose one, two or three electrons to attain stability. Examples of positive ions.		PP 14-15	
3	3	Positive ions representation.	To represent formation of positive ions symbolically.	Diagrammatic representation of cations.	Chart – ion model.	P 16	
	4	Negative ions and ion formation.	To define an anion. To describe formation of negative ions symbolically.	Teacher gives examples of stable atoms. Guided discovery of formation of negative ions. Diagrammatic representation of anions.	Chart – ion model.	P 17	
4	1	Valencies of metals.	Recall valencies of metals among the first twenty elements in the periodic table.	Q/A to review previous lesson; Exposition; Guided discovery.	Periodic table.	P 17	

	2	Valencie of non-metals.	Recall valencies of non-metals among the first twenty elements in the periodic table.	Q/A to review previous lesson; Exposition; Guided discovery.	Periodic table.	P 17	
	3	Valencies of radicals.	Define a radical. Recall the valencies of common radicals.	Exposition – teacher defines a radical, gives examples of radicals and exposes their valencies. Students draw a table of radicals and their valencies.		P 18	
	4	Oxidation number.	Define oxidation number. Predict oxidation numbers from position of elements in the periodic table.	Q/A: Valencies. Expose oxidation numbers of common ions. Students complete a table of ions and their oxidation numbers.	The periodic table.	P 18	
5	1	Electronic configuration, ion formed, valency and oxidation number	Relate electronic configuration, ion formed, valency and oxidation number of different elements.	Written exercise; Exercise review.		P 18	
	2	Chemical formulae of compounds. - Elements of equal valencies.	To derive the formulae of some compounds involving elements of equal valencies.	Discuss formation of compounds such as NaCl, MgO.		PP 19-20	
	3	Chemical formulae of compounds. -Elements of unequal valencies.	To derive the formulae of some compounds involving elements of unequal valencies.	Discuss formation of compounds such as $MgCl_2$ Al $(NO_3)_3$		PP 19-20	

	4	Chemical formulae of compounds. -Elements of variable valencies.	To derive the formulae of some compounds involving elements of variable valencies.	Discuss formation of compounds such as -Copper (I) Oxide. -Copper (II) Oxide. -Iron (II) Sulphate. -Iron (III) Sulphate.		P 20	
6	1	Chemical equations.	To identify components of chemical equations.	Review word equations; Exposition of new concepts with probing questions; Brief discussion.		PP 21-23	
	2	Balanced chemical equations.	To balance chemical equations correctly.	Exposition; Supervised practice.		PP 24-25	
	3	Balanced chemical equations.(contd)	To balance chemical equations correctly.	Supervised practice; Written exercise.		PP 25-8	
	4	TEST					
7	1	**CHEMICAL FAMILIES** **Alkali metals.** Atomic and ionic radii of alkali metals	Identify alkali metals. State changes in atomic and ionic radii of alkali metals.	Q/A to reviews elements of group I and their electronic configuration. Examine a table of elements, their symbols and atomic & ionic radii. Discussion & making deductions from the table.	The periodic	PP 28-29	

	2	Ionisation energy of alkali metals.	State changes in number of energy levels and ionisation energy of alkali metals.	Examine a table of elements, number of energy levels and their ionization energy. Discuss the trend deduced from the table.			
	3,4	Physical properties of alkali metals.	State and explain trends in physical properties of alkali metals.	Examine a table showing comparative physical properties of Li, Na, and K. Q/A: Teacher asks probing questions as students refer to the table for answers. Detailed discussion on physical properties of alkali metals.	Chart – comparative properties of Li, Na, K.	PP 30-31	
8	1	Chemical properties of alkali metals.	To describe reaction of alkali metals with oxygen.	Q/A: review reactions of Na, K, etc. with oxygen. The corresponding word and then chemical equations are then written.		P 31	
8	2	Chemical properties of alkali metals.	To describe reaction of alkali metals with water.	Q/A: Review reaction of metals with water. Writing down chemical equations for the reactions. Deduce and discuss the order of reactivity down the group.		P. 32	

	3,4	Reaction of alkali metals with chlorine gas.	To write balanced equations for reaction of alkali metals with chlorine gas.	Teacher demonstration- reaction of sodium with chlorine in a fume chamber. Q/A: Students to predict a similar reaction between potassium and chlorine. Word and balanced chemical equations for various reactions.	Sodium, chlorine.	P. 33	
9	1	Compounds of alkali metals.	Write chemical formulae for compounds of alkali metals. Explain formation of hydroxides, oxides and chlorides of alkali metals.	Exercise: Completing a table of hydroxides, oxides and chlorides of alkali metals. Discuss combination of ions of alkali metals with anions.			
	2	Uses of alkali metals.	State uses of alkali metals.	Descriptive approach: Teacher elucidates uses of alkali metals.			
9	3	**Alkaline Earth metals** Atomic and ionic radii of alkaline earth metals.	Identify alkaline earth metals. State changes in atomic and ionic radii of alkaline earth metals.	Q/A: Elements of group I and their electron configuration. Examine a table of elements, their symbols and atomic & ionic radii. Make deductions from the table.	Some alkaline earth metals.		

	4	Physical properties of alkaline earth metals.	State and explain trends in physical properties of alkaline earth metals.	Examine a table showing comparative physical properties of Be, Mg, Ca. Q/A: Teacher asks probing questions as students refer to the table for answers. Detailed discussion of physical properties of alkaline earth metals.	Some alkaline earth metals.	P. 35	
10	1	Electrical properties of alkaline earth metals.	To describe electrical properties of alkaline earth metals.	Teacher demonstration: - To show alkaline metals are good conductors of electric charge.	Alkaline earth metals.	P. 37	
	2	Chemical properties of alkaline earth metals. Reaction of alkaline earth metals with oxygen.	To describe reaction of alkaline earth metals with oxygen	Q/A: Review reactions of Mg, Ca, with oxygen. The corresponding word and then chemical equations are then written and their correctness verified by the teacher.		P. 38	
10	3	Chemical properties of alkaline earth metals. Reaction of alkaline earth metals with water.	To describe reaction of alkaline earth metals with water.	Q/A: Review reaction of metals with water. Writing down word and balanced chemical equations for the reactions. Deduce and discuss the order of reactivity down the group.	Some alkaline earth metals.	P. 39	

	4	Reaction of alkaline earth metals with chlorine gas.	To write balanced equations for reaction of alkaline earth metals with chlorine gas.	Teacher demonstration- Reaction of sodium with chlorine in a fume chamber. Q/A: Students to predict a similar reaction between potassium and chlorine. Word and balanced chemical equations for various reactions. Supervised practice.	Sodium, chlorine.	P. 41	
11	1	Reaction of alkaline earth metals with dilute acids.	To describe reaction of alkaline earth metals with acids.	Group experiments- Drop a ribbon of Mg in dilute HCl, H_2SO_4. Test for evolved gas with a burning splint.	Magnesium ribbon, dilute HCl, dilute H_2SO_4.	P. 42	
	2	Reaction of alkaline earth metals with dilute acids.	To write balanced equations for reactions of alkaline earth metals with dilute acids.	Changing word to chemical equations. Supervised practice.		PP. 43	
11	3	Chemical formulae of alkaline earth metals.	Write chemical formulae for compounds of alkaline earth metals. Explain formation of hydroxides, oxides and chlorides of alkaline earth metals.	Exercise: Completing a table of hydroxides, oxides and chlorides of alkaline earth metals. Discuss combination of ions of alkaline earth metals with anions.		PP. 45-47	
	4	Uses of some alkaline earth metals and their compounds.	State uses of alkaline earth metals.	Descriptive approach: Teacher elucidates uses of alkaline earth metals.		PP. 45-47	

12- 13	*END OF FIRST TERM EXAMS*	

	SCHEME OF WORK		***FORM TWO CHEMISTRY***		***TERM TWO 2011***		
WK **NO.**	**L/ NO**	TOPIC/ **SUBTOPIC**	**LESSON / SPECIFIC OBJECTIVES**	**TEACHING / LEARNING ACTIVITIES**	**MATERIALS / RESOURCES**	***REFERE-NCES***	**REMARKS**
1	1	**Halogens.** Physical properties of halogens.	Identify halogens in the periodic table. Give examples of halogens. Identify physical states of halogens.	Teacher demonstration: - To examine electrical properties of iodine, solubility in water of chlorine.	Iodine crystals, electrical wire, a bulb.	KLB BK II P. 47	

	2	Comparative physical properties of halogens.	To state and explain the trends in physical properties of halogens.	Examine a comparative table of physical properties of halogens. Discuss the deductions made from the table.		P. 47	
	3,4	Chemical properties of halogens.	To describe laboratory preparation of chlorine gas. To describe reaction of halogens with metals.	Teacher demonstration: - preparation of chlorine gas. Reaction of chlorine and iron wool. Reaction of bromine and iron wool. Reaction of iodine and iron wool. Observe the rate of these reactions; hence deduce order of their reactivity of halogens.	Chlorine, iron wool, bromine.	PP. 48-50	
2	1	Equations of reaction of halogens with metals.	To write balanced chemical equations of reactions involving halogens.	Re-write word equations as chemical equations then balance them. Supervised practice.		P. 50	
2	2	Reaction of halogens with water.	To describe reaction of halogens with water and the results obtained.	Bubbling chlorine gas through water. Carry out litmus test for the water. Explain the observations.	Chlorine gas, litmus papers.	P. 51	
	3,4	Some uses of halogens and their compounds.	To state uses of halogens and their compounds.	Teacher elucidates uses of halogens and their compounds.			

3	1	**Noble Gases.** Comparative physical properties of noble gases.	To describe physical properties of noble gases. To explain physical properties of noble gases.	Make A comparative analysis of tabulated physical properties of noble gases.		PP. 52-53	
	2	Uses of noble gases.	State uses of noble gases.	Teacher elucidates uses of noble gases.		P. 54	
	3	**STRUCTURE & BONDING** Chemical bonds. Ionic bond.	Describe role of valence electrons in determining chemical bonding. Explain formation of ionic bonding.	Q/A: Review valence electrons of atoms of elements in groups I, II, III, VII and VIII. Q/A: Review group I and group VII elements. Discuss formation of ionic bond.		P54 PP 57-58	
	4	Ionic bond representation.	Use dot and cross diagrams to represent ionic bonding.	Drawing diagrams of ionic bonds.	Chart- dot and cross diagrams. Models for bonding.	P. 58	
4	1	Grant ionic structures.	Describe the crystalline ionic compound. Give examples of ionic substances.	Discuss the group ionic structures of NaCl. Teacher gives examples of other ionic substances: KNO_3, potassium bromide, $Ca (NO_3)_2$, sodium iodide.	Giant sodium chloride model.	PP 56-58	

	2	Physical properties of ionic compounds.	Describe physical properties of ionic compounds. Explain the differences in the physical properties of ionic compounds.	Analyse tabulated comparative physical properties of ionic compounds. Teacher asks probing questions.		PP 58-59	
	3,4	Covalent bond.	Explain the formation of covalent bond Use dot and cross diagrams to represent covalent bond.	Exposition: Shared pair of electrons in a hydrogen molecule, H_2O, NH_3, Cl_2, and CO_2. Drawing of dot-and-cross diagrams of covalent bonds.		PP 60-63	
5	1	Co-ordinate bond.	To describe the co-ordinate bond To represent co-ordinate bond diagrammatically.	Exposition- teacher explains the nature of co-ordinate bond. Students represent co-ordinate bond diagrammatically.		P 65	
	2	Molecular structure.	To describe the molecular structure. To give examples of substance exhibiting molecular structure	Discussion – To explain formation of the giant structure and give examples of substance exhibiting molecular structure.		P 65	
	3 & 4	Trend in physical properties of molecular structures.	To describe van- der -waals forces. To explain the trend in physical properties of molecular structures.	Discuss comparative physical properties of substances. exhibiting molecular structure. Explain variation in the physical properties.	Sugar, naphthalene, iodine rhombic sulphur.	P 65	

6	1	Giant atomic structure in diamond.	To describe giant atomic structure in diamond. To state uses of diamond.	Diagrammatic representation of diamond. Discuss uses of diamond.	Diagrams in textbooks.	P 69	
	2	Giant atomic structure in graphite.	To describe giant atomic structure in graphite. To state uses of graphite.	Diagrammatic representation of graphite. Discuss uses of graphite.	Diagrams in textbooks.		
	3	Metallic bond. Uses of some metals.	To describe mutual electronic forces between electrons and nuclei. To describe metallic bond. To compare physical properties of metals. To state uses of some metals.	Discussion: Detailed analysis of comparative physical properties of metals and their uses. Probing questions & brief explanations.		P 70	
	4	TEST					
7	1	**PROPERTIES AND TRENDS ACROSS PERIOD THREE** Physical properties of elements in periods.	To compare electrical conductivity of elements in period 3	Group experiments- Construct electrical circuits incorporating a magnesium ribbon, then aluminum foil, then sulphur in turns. The brightness of the bulb is noted in each case. Discuss the observations in terms of delocalised electrons.	The periodic table.	P. 76	

	2	Physical properties of elements in period 3.	To compare other physical properties of elements across period 3.	Analyse comparative physical properties presented in form of a table. Explain the trend in the physical properties given.	The periodic table.	P. 77	
	3	Chemical properties of elements in period 3.	To compare reactions of elements in period 3 with oxygen.	Q/A: Products of reactions of Na, Mg, Al, P, & S with oxygen. Discuss the trend in their reactivity; identify basic and acidic oxides. Exercise – balanced chemical equations for the above reactions.	The periodic table.	PP. 79-80	
	4	Chemical properties of elements in the third period.	To compare reactions of elements in period 3 with water	Q/A: Review reaction of sodium, Mg, chlorine, with water. Infer that sodium is most reactive metal; non-metals do not react with water.	The periodic table.	PP. 80-81	
8	1	Oxides of period 3 elements.	To identify bonds across elements in period 3. To explain chemical behavior of their oxide.	Comparative analysis, discussion and explanation.	The periodic table.	P. 84	
	2	Chlorides of period 3 elements.	To explain chemical behavior of their chlorides. To describe hydrolysis reaction.	Comparative analysis, discussion and explanation.	The periodic table.	PP. 77-78	

	3,4	**SALTS** Types of salts.	Define a salt. Describe various types of salts and give several examples in each case.	Descriptive approach. Teacher exposes new concepts.		P. 91	
9	1,2	Solubility of salts in water.	To test solubility of various salts in cold water/warm water.	Class experiments- Dissolve salts in 5 cc of water. Record the solubility in a table, Analyse the results.	Sulphates, chlorides, nitrates, carbonates of various metals.	PP. 92-93	
	3,4	Solubility of bases in water.	To test solubility of various bases in water. To carry out litmus test on the resulting solutions.	Class experiments- Dissolve salts in 5cc of water. Record the solubility in a table, Carry out litmus tests. Discuss the results.	Oxides, hydroxides, of various metals, litmus papers.	PP. 94-95	
10	1-4	Methods of preparing various salts.	To describe various methods of preparing some salts.	Experimental and descriptive treatments of preparation of salts e.g. $ZnSO_4$, $CuSO_4$, $NaCl$ and $Pb(NO_3)_2$.	CuO, H_2SO_4, HCl, $NaOH$, $PbCO_3$, dil HNO_3.		

11	1,2	Direct synthesis of a salts.	To describe direct synthesis of a salt. To write balanced equations for the reactions.	Group experiments- preparation of iron (II) sulphide by direct synthesis. Give other examples of salts prepared by direct synthesis. Students write down corresponding balanced equations.	Iron, Sulphur	P. 104	
	3,4	Ionic equations.	To identify spectator ions in double decomposition reactions. To write ionic equations correctly.	Q/A: Ions present in given reactants. Deduce the products of double decomposition reactions. Give examples of equations. Supervised practice.	$PbNO_3$, $MgSO_4$ solutions.		
12 13	*END OF SECOND TERM TEST*						

SCHEME OF WORK ***FORM TWO CHEMISTRY*** TERM THREE 2011

WK **NO.**	**L/ NO**	TOPIC/ **SUBTOPIC**	**LESSON / SPECIFIC OBJECTIVES**	**TEACHING / LEARNING ACTIVITIES**	**MATERIALS / RESOURCES**	***REFERE-NCES***	**REMARKS**

1	1	Effects of heat on carbonates.	To state effects of heat on carbonates. To predict products resulting from heating metal carbonates.	Group experiments- To investigate effects of heat on Na_2CO_3, K_2CO_3, $CaCO_3$, $ZnCO_3$, $PbCO_3$, e.t.c. Observe various colour changes before, during and after heating. Write equations for the reactions.	Various carbonates.	PP. 108-109	
	2	Effects of heat on nitrates.	To state effects of heat on nitrates. To predict products resulting from heating metal nitrates.	Group experiments- To investigate effects of heat on various metal nitrates. Observe various colour changes before, during and after heating. Write equations for the reactions.	Common metal nitrates.	PP. 110-111	
	3,4	Effects of heat on sulphates.	To state effects of heat on sulphates. To predict products results from heating metal sulphates.	Group experiments- To investigate effects of heat on various sulphates. Observe various colour changes before, during and after heating. Write equations for the reactions.	Common sulphates.	P. 113	
2	1	Hygroscopy, Deliquescence and Efflorescence.	To define hygroscopic deliquescent and efflorescent salts. To give examples of hygroscopic deliquescent and efflorescent salts.	Prepare a sample of various salts. Expose them to the atmosphere overnight. Students classify the salts as hygroscopic, deliquescent and / or efflorescent.		P. 114	

	2	Uses of salts.	To state uses of salts	Teacher elucidates uses of salts.		P. 114	
	3,4	**EFFECTS OF AN ELECTRIC CURRENT ON SUBSTANCES**. Electrical conductivity.	To test for electrical conductivities of substances.	Group experiments- to identify conductors and non-conductors. Explain the difference in (non) conductivities.	Various solids, bulb, battery, & wires.	PP. 118-119	
3	1,2	Molten electrolytes.	To test for electrical conductivities molten electrolytes.	Group experiments- to identify electrolytes in molten form. Explain the difference in molten electrolytes.	Molten candle wax Sugar Sulphur Lead oxide.	PP. 120-121	
	3,4	Electrolysis.	To define electrolysis To describe the process of electrolysis in terms of charge movement.	Descriptive approach punctuated with Q/A.			
4	1,2	Aqueous electrolytes. Electrodes.	To define an electrolyte To test for electrical conductivities of electrodes.	To investigate chemical effect of an electric current. Classify the solutions as electrolyte or non - electrolytes. Discuss the electrical properties of the solutions.	Graphite electrodes Battery Various aqueous solutions switch bulb.	PP.122-123	
	3,4	Reaction on electrodes.	To describe half-equation reactions at the cathode and anode	To demonstrate – Electrolysis of molten lead (II) bromide Observe colour changes Explanation of half-equations and reactions at the electrodes.	Graphite electrodes Battery Various aqueous solutions switch.	PP.126-127	

5	1,2	Binary electrolyte.	To define a binary electrolyte. To state the products of a binary electrolyte.	Completing a table of electrolysis of binary electrolytes.		P.127	
	3	Application of electrolysis.	To state application of electrolysis.	Discussion and explanations.		P. 128	
	4	Electroplating.	To describe electroplating process.	*Experiment- Left overnight.* Electroplating an iron nail with silver nitrate/ copper sulphate. Brief discussion.	Silver nitrate Iron nail Complete circuit battery.	PP. 129-30	
6	1	Topic assessment.					
	2	**CARBON AND SOME OF ITS COMPOUNDS.** Allotropy.	Define allotropes and allotropy. Identify allotropes of carbon. Represent diamond and graphite diagrammatically.	Teacher exposes new terms. Review covalent bond. Discuss boding in diamond and graphite.		PP. 131-133	
	3,4	Physical and chemical properties of diamond, graphite and amorphous carbon	Describe physical and chemical properties of diamond, graphite and amorphous carbon. State uses of carbon allotropes.	Discuss physical and chemical properties of diamond, graphite and amorphous carbon. Explain the Physical and chemical properties of diamond, graphite and amorphous carbon. Discuss uses of carbon allotropes.	Charcoal, graphite.		

7	1	Burning carbon and oxygen.	Describe reaction of carbon with oxygen.	Teacher demonstration- Prepare oxygen and pass dry oxygen into a tube containing carbon. Heat the carbon. Observe effects on limewater.	Carbon, limewater, tube, limewater stand& Bunsen burner.	PP. 134-135	
	2	Reduction properties of carbon.	Describe reduction properties of carbon. Show reduction properties of carbon.	Teacher demonstration – Burn strongly a mixture of carbon and CuO on a bottle top. Observe colour changes and give underlying explanation	CuO, pounded charcoal, Bunsen burner& bottle top	P.126	
	3&4	Reaction of carbon with acids. Preparation of CO_2.	Describe reaction of carbon with acids. Prepare CO_2 in the lab.	Teacher demonstration- reaction of carbon with hot conc HNO_3. Write balanced equations for the reaction. Review effects of heat on carbonates. Group experiments/teacher demonstration- preparation of CO_2.	Conc. HNO_3, limewater.	P.126	
8	1,2	Properties of CO_2.	Describe properties of CO_2	Simple experiments to determine properties of CO_2. Discuss the observations.	Lime water, Magnesium ribbon, Universal indicator, lit candle.	PP.138-139	
	3,4	Chemical equations for reactions involving CO_2.	Write balanced CO_2.	Give examples of reactions. Write corresponding balanced chemical equations.		PP.139-140	

9	1	Uses of CO_2.	State uses of CO_2	Discuss briefly the uses of CO_2.		PP.140-1	
	2	Carbon monoxide lab preparation.	To describe preparation of carbon monoxide in the lab	Teacher demonstration: preparation of carbon monoxide in the lab. Make observations.		PP. 142-143	
	3	Chemical properties of carbon monoxide.	To describe chemical properties of carbon monoxide.	Description of properties of carbon monoxide. Discussion and writing of chemical equations.		PP. 44-145	
	4	Carbonates and hydrogen carbonates.	To state the difference between carbonates and hydrogen carbonates. To describe chemical reactions of carbonates and hydrogen carbonates with acids.	Observe reactions of carbonates of Ca, Cu, Zn, $NaHCO_3$ with HCl, HNO_3, and H_2SO_4. Record observations in a table.	Carbonates of Ca, Cu, Zn, $NaHCO_3$ with HCl, HNO_3, and H_2SO_4.	PP.148-149	
10	1	Carbonates and hydrogen carbonates.	To write chemical equations for reactions of carbonates and hydrogen carbonates with acids.	Discuss the observations above. Write chemical equations for the reactions.			
	2	Heating carbonates and hydrogen carbonates.	To investigate reactions of carbonates and hydrogen carbonates on heating.	Heat the above carbonates and record observations in a table.	Various carbonates and hydrogen carbonates.		

	3,4	Heating carbonates and hydrogen carbonates.	To write equations for reaction of carbonates and hydrogen carbonates on heating.	Discuss the above observations. Write corresponding balanced equations.		PP.150-151	
11	1	Extraction of sodium carbonate from trona.	To draw schematic diagram for extraction of sodium carbonates.	Discuss each step of the process. Write relevant equations.		PP. 153-157	
	2	Solvay process of preparing sodium carbonate.	To draw schematic diagram for extraction of sodium carbonates.	Discuss each step of the process. Write relevant equations.			
	3,4	Importance of carbon in nature. & its effects on the environment.	To discuss: - Importance of carbon in nature. & Effects of carbon on the environment.	Discuss the carbon cycle and processes that increase/ reduce amount of CO_2 in the air. Uses of CO_2 in soft drinks and fire extinguishers.		PP.157-158	
12 13		*END OF YEAR EXAMS*					