## THE PRESIDENT'S OFFICE-REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

## **SCHEME OF WORK**

SCHOOL'S NAME: MWASAMBA SECONDARY SCHOOL

TEACHER'S NAME: MAHANDE MAGWALA MASUNGA

**SUBJECT: CHEMISTRY** 

**CLASS: FORM FOUR** 

TERM: 1st& 2nd TERM

**YEAR: 2025** 

MAIN COMPETENCE	SPECIFIC COMPETENCE	TEACHING ACTIVITIES	MONTH	WEEK	PERIODS	REFERENCE	TEACHING/LEARN ING TOOLS	ASSESSMENT TOOLS	REMARKS
NON METALS AND THEIR COMPOUNDS	1.1 General chemical properties of non metals	To prepare students to discuss the oxidizing properties of non metals as good electron acceptors	JANUAR Y	3RD	04	Tanzania Institute of Education (2022), Chemistry for Secondary	Chart of oxidation reactions of non metal	Homework	
		To demonstrate the displacement of non – metal by another non metal from a compound				Schools, Book four, TIE, DSM.	Cl <sub>2</sub> KI	Quiz	
	1.2 Chlorine	To lead students to discuss and make observations on the chemical properties of chlorine Demonstrate the oxidizing properties of chlorine					SO <sub>2</sub> , H <sub>2</sub> S FeCl <sub>2</sub> , Dyes, Cl, coloured flowers	Assignment	
		To prepare students to discuss uses of					Chart of uses of Cl <sub>2</sub>	Quick test	
	1.3 Hydrogen Chloride	chlorine Prepare students prepare Hcl gas in the Laboratory using conc. H <sub>2</sub> SO <sub>4</sub> and NaCl.		4 <sup>TH</sup>			NaCl, NH <sub>4</sub> ClConc. H <sub>2</sub> SO <sub>4</sub> ,HCl	Exercise	
	1.4 Sulphur	Lead a discussion on the uses of HCl gas.  To prepare students to discuss the extraction of sulphur by the Frisch process	FEBRU ARY	1 <sup>ST</sup>	_		Chart of the uses of HCl gas  Diagram of the industrial extraction of Sulphur	Exercise Quiz	
		Lead a discussion on the properties and uses		1	12		S, Cu, Fe, Conc H <sub>2</sub> SO <sub>4</sub> , K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	Oral questions	
		of sulphur		2 <sup>ND</sup>				Homework Assignment	
	1.5 Sulphur dioxide	To prepare students to discuss the uses properties and hazards of sulphur dioxide		3 <sup>RD</sup>			SO <sub>2</sub> , NaOH, KMnO <sub>4</sub> , FeCl <sub>2</sub> , HNO <sub>3</sub> H <sub>2</sub> S, Mg, PbO	Quick test	
	1.6 Sulphuric acid	To prepare students to discuss the contact process for the manufacture of $\rm H_2SO_4$	A P	4 <sup>TH</sup>	08		Chart of industrial manufacture of $\rm H_2SO_4$	Oral questions	
		To prepare students to discuss the properties and uses of H <sub>2</sub> SO <sub>4</sub>	R I L				Mg, MgO, NaOH, conc H <sub>2</sub> SO <sub>4</sub> , C, CuSO <sub>4</sub> , products	Homework	
	1.7 Nitrogen	Prepare students to prepare a sample of nitrogen gas in the laboratory and discuss its uses	MARCH APRIL	1 <sup>ST</sup>			Gas jar, Cu, conc. KOH, heat, flosses	Assignment	
				2ND	08				
	1.8 Ammonia	To demonstrate the preparation of dry sample of $NH_3$ in the laboratory				-	Ca(OH) <sub>2</sub> , NH <sub>4</sub> Cl, CaO, litmus, conc. HCl	quiz	
		To prepare students to discuss the uses and properties of $\mathrm{NH}_3$ gas		3RD	04		HCl, CaO, O <sub>2</sub> , NH <sub>3</sub> , H <sub>2</sub> O, and Litmus	Oral questions	

	1.9 Carbon	To lead students on the discussion on the forms in which carbon exists and allotropic					Egg shells CO <sub>3</sub> <sup>2</sup> , coal, graphite and Diamond	Homework	
		forms of carbon		1ST					
	1.10 Carbon dioxide	To prepare students to prepare a dry CO <sub>2</sub> gas in the laboratory		2ND	08		CaCO <sub>3</sub> , HCl, Apparatus	Assignment	
		To lead students to observe and analyze the properties and uses of CO <sub>2</sub>					CO <sub>2</sub> , Ca(OH) <sub>2</sub> , Ba (OH) <sub>2</sub> CaCO <sub>3</sub> , Mg, H <sub>2</sub> O	Test	
,	N	MID-TERM ASSES	SMENT	& MID-T	ΓERM BRI	EAK (11/04/202	25 - 21/04/2025)		,
GANIC CHEMISTRY	3.1Introduction to organic chemistry	To prepare students to compare organic chemistry with inorganic chemistry			04		Organic and inorganic compounds	Oral questions	
				4 <sup>TH</sup>					
		To lead students to discuss the importance of organic chemistry  Prepare student to discuss the origin of organic compounds  To prepare students to discuss the fractional distillation of crude oil	MAY				Samples of organic compounds	Oral questions	
						Tanzania Institute of Education (2022), Chemistry for Secondary Schools, Book four, TIE, DSM.  SCSU &MoEVT	Synthetic organic compounds	Homework	
							Chart of fractional distillation	Assignment	
	3.2 Hydrocarbons	Lead students to discuss the classification and homologous series of hydrocarbons					Chart of classes and series of homologous of hydrocarbons	Test	
		To guide students to discuss on the Isomerism, Isomers, general formula of hydrocarbons.		1 <sup>ST</sup>	08		Isomers of hydrocarbons	Quiz	
	3.3Properties of hydrocarbons	To prepare students to discuss on the physical properties, saturated/ unsaturated and chemical properties of hydrocarbons		2 <sup>ND</sup>	08		Chart of saturated or unsaturated and properties of hydrocarbons	Exercise	
	3.4Alcohols	To prepare students to discuss on the Lab. Prep. Of Ethanol, homologous series, structures of isomers properties of alcohol their uses and the harmful effects of alcohol		3rd & 4th			Charts of isomers, yeast, H <sub>2</sub> O and sugar	Homework	
	3.5 Carboxylic acids	To prepare students to find out sources of acids, discuss on the oxidation of ethanol, homologous series, properties and soap preparation			08		NaOH, Na <sub>2</sub> CO <sub>3</sub> , NaHCO <sub>3</sub> , acids and soap	Quiz	
·	T	ERMINAL ASSESS	SMENT	& FIRST	TERM BI	 REAK (06/06/2	025 - 07/07/205)		ı
OIL CHEMISTRY	3.1 Soil Formation	To prepare students to discuss the process soil formation and factors		2ND			Soil samples of different end types marble Dilute acid	Assignment	
			JULY		08				

	3.2 Soil Reaction	To prepare students to discuss the concept of soil reaction, its causes, and effects to plant growth and how to measure pH of the soil.  To guide students to manage the soil pH by liming.		3RD	04		pH meter soil pH Kit samples of soil Liming material	Test	
	3.3Plant nutrients in the soil  3.4Manure and fertilizers	prepare students to discuss on the microelements and macro elements prepare a discussion on Preparation of composite manure Advantages and elements of natural manure Types of fertilizers. Fertilizer grackles and analysis Methods of fertilizer application		<b>4</b> <sup>TH</sup>	04		Chart showing soil nutrients  Samples of composite manure fertilizers (NPK, MSP, DSP, TSP Urea, CAN Superphosphate. Natural Manure	Exercise  Homework	
	3.5Soil fertility and productivity	prepare students to discuss about the soil fertility and productivity					Samples or plots of soil fertile and productive soil.	Quiz	
4. POLLUTION	4.1 Concept of pollution	prepare students to discuss the meaning of pollution land give examples of pollution in real life situations	Access		Secondary Schools, Bordour, TIE, DSM.  Tanzania Institution of Education (2022), Chemist for Secondary	TIE(2022), Chemistry for Secondary Schools, Book four, TIE, DSM.	Charts and pictures of pollution	Homework	
	4.2 Terrestrial pollution	prepare a discussion on;  - Human activities which cause terrestrial pollution - Hazards caused by terrestrial pollution - Methods of preventing terrestrial pollution		1 <sup>ST</sup>		(2022), Chemistry	Land pollution	Exercise	
	4.3 Aquatic pollution	prepare students to discuss on;  - Human activities which cause water pollution  - Hazards which are caused by water pollution  - Ways of preventing water pollution		2 <sup>ND</sup>		Schools, Book four, TIE, DSM.	Water pollution	Homework	
	4.4 Aerial pollution	Organize students to discuss on  Human activities causes aerial pollution  Hazards caused by air pollution  Methods of preventing air pollution  Control/preventive measures of air pollution			04		Air pollution	Quiz	
	4.5 Environmental conservation	prepare students to  - Discuss the meaning of environmental conservation.  - Guide students to plant flowers and tree, clean the environment and conserve the environments			04		Pictures of un-conserved and conserved environment	Assignment	
	4.6 Global warming	prepare a discussion on:  - Meaning of global warming and green house effect  - Green house gases  - Climatic condition caused by global warming  Ways of preventing global warming				Pictures to illustrate the green house effects, hurricanes, deserts floods	Test		
	4.7. O-zone layer Destruction	To discuss on:  - Meaning and significance of the Ozone layer.  - How ozone layer is destroyed  - Protective methods of Ozone layer		<b>4</b> <sup>Th</sup>	4 <sup>TH</sup>	04		Charts illustrates Ozone layer destruction	Exercise
	V	IID-TERM ASSESS	SMENT &	& MID-T	ERM BREA	AK (29/08/202	25 - 14/09/2025)		
5. QUALITATIVE ANALYSIS	5.1 The concept of qualitative Analysis	To prepare a discuss on the meaning and importance of qualitative analysis in real life	SEPTE MBER	3 <sup>RD</sup>	04	Tanzania Institute of Education (2022),	Apparatus for a qualitative analysis	Homework	
	5.2 Qualitative analysis procedures	prepare students to practice the use of apparatus for qualitative analysis			4	Chemistry for Secondary Schools, Book four, TIE, DSM.	Apparatus for qualitative analysis	Exercise Homework Quiz Assignment Test	

To prepare students to carry out preliminary test on an unknown sample			Conc. H <sub>2</sub> SO <sub>4</sub> , DilHCl, SO <sub>4</sub> <sup>2-</sup> Litmus, NO <sub>3</sub> , HCO <sub>3</sub> , NH4 <sup>+</sup> , Cl <sup>-</sup> , CO <sub>3</sub> <sup>2-</sup> , H <sub>2</sub> O	Exercise	
prepare student to prepare solutions from soluble and insoluble salts	4TH		Distilled H <sub>2</sub> O, Dil. HCl, HNO <sub>3</sub> , CO <sub>3</sub> <sup>2-</sup> , NO <sub>3</sub> -, SO <sub>4</sub> <sup>2-</sup> , NH <sub>4</sub> , HCO <sub>3</sub> -	Homework	
prepare students to carry out experiments to precipitate Cu2+, Fe2+, Fe3+, Ca2+, Pb2+, Zn2+			NaOH, NH <sub>4</sub> OH, KI, K, Ferro, Ferri, solutions	Quiz	
prepare students to confirm the identified ions.			BaCl <sub>2</sub> , NaOH, HCl, NH <sub>4</sub> OH, MgSO <sub>4</sub> , NH <sub>4</sub> <sup>+</sup> Oxalate.	Assignment	

PREPARATION FOR CERTIFICATE OF SECONDARY EDUCATION EXAMINATION 2025 (OCTOBER 1<sup>ST</sup> WEEK TO NOVEMBER 1<sup>ST</sup> WEEK)