SCHEME OF WORK

FORM 4 CHEMISTRY TERM III 2017

Week no.	Session	Topic	Objectives	Method	Remarks
I	2 periods	Corrections of exam papers	Revision of term II	Revision	
I	3 periods	1. a)Mole concept	a. Define mole, molar mass, molar volume, concentration in moldm^{-3} , gdm^{-3}, standard solutions	Note/ examples	
II	2 periods 3 periods	b)Titration	b. Apply mole concept to equations c. Volumetric analysis Calculations of concentration	Use of worked examples, questions Example of calculations using data from lab	
III	2 period		d. Volumetric Analysis: Acid Base Titration, Redox Titration	Discussion Lab: Redox titration	
III	3 periods	2. Oxidation and Reduction	a. Define oxidation and reduction in terms of oxygen hydrogen electrons b. Write ionic half equations	Notes examples	
IV	5 period	3. Oxidation and reduction	c. Explain the terms oxidation number. Apply rules for deduction of oxidation number. -define oxidation and reduction in terms of oxidation number. d. identify redox reaction in terms of (i) gain or loss of electrons (ii) change in oxidation number	Notes/Discussion Lab: To investigate the reactions of oxidizing and reducing agents	

V	2 periods 3 periods	Oxidation and reduction cont'd 3.Plan and Design labs	e. Distinguish between oxidising and reducing agents. OA and RA f. Perform tests for oxidising and reducing agents Sample plan and design lab	Notes /Discussion PD lab on chromatography	
VI	5 periods	4.Energetics	(a) Distinguish between exothermic and endothermic reactions (b)Explain in terms of bond formation and bond c) explain term enthalpy Draw energy profile diagrams to show exothermic change	Notes and use of examples	
VII	5 periods	4.Energetics cont'd	d)define Heat change of reaction, heat change of solution, heat change of neutralisation e)explain specific heat capacity -calculate energy f) Changes from experimental data using mc Δt.	Notes and Examples 2 labs- enthalpy change of solution(A&I) and enthalpy change of neutralisation	
VIII	5 periods	5.Trends in periodic table	Describe and explain trends in a)Period 3-reaction with oxygen and water b)acid-base property of period 3 oxide c)physical properties of period 3 elements-conductivity and melting point d)Gp II metals -physical properties -chemical reactions of metals with water, acid, oxygen	Discussion Project Work- Marked for coursework (group work)	

			e)Grp VII-Halogens -physical properties of halogens volatility state colour -displacement reactions, reactions with silver nitrate and conc. sulphuric acid		
IX	5 periods	Electrochemistry	a. Classification of substances as either conductor or non-conductor b. Distinguish between metallic and electrolytic conduction c. Classify electrolytes as either strong or weak based on conductivity d. Define cathode, anode, cation, anion etc. e. Predict Chemical reactions using the electrochemical series f. Discuss the electrolysis of NaCl, $CuSO_4$ etc g. Define Faraday's Constant and associated calculations h. Industrial Applications of electrolysis	Notes/Discussion LAB: ELECTROLYSIS	
Week 10 & 11		END OF TERM EXAMS			