Discipline : Applied Science

2nd semester (ceramic engineering)
Subject: Chmistry Application
Lesson plan duration : 15 weeks
work load : Theory 03, Practical 02

		Theory	Practical	
Week	**Lecture day**	**Topic (including assignment/test)**	**actical d:**	**Experiment Name**
1st	1	Unit 1: Defination of symbol, formula, valency and chemical equation	1&2	Experiment 1: Crysttalization of a sample of alum.
	2	Atomic mass and molecular masses, mole concept and molar mass .		
	3	Writing of the chemical formula of a simple chemical compound.		
2nd	4	Emperical and molecular formula.	3&4	Exp 2: Separation of constituents of an inorganic mixture by paper chromatography.
	5	Calculation of percentage composition of a chemical compound.		
	6	Essentials of a chemical equation, balancing of a chemical equation by hit and trial method		
3rd	7	Exothermic and endothermic equations.	5&6	Practice of 1&2
	8	revision of unit 1		
	9	Test of unit 1		
4th	10	Unit 2: Calorific value, determination of calorific value by bomb calorimeter.	7&8	Exp3 : Separation of components of ink.
	11	Combustible and non combustible constituents of coal.		
	12	Proximate analysis of coal.		
5th	13	Manufacture , properties and uses of water gas and producer gas.	9&10	Exp 4 : To prepare collidal solution of starch.
	14	Manufacture , properties and uses of biogas.		
	15	Unit 3: Phase rule, terminology related to phase rule.		
6th	16	Gibb's phase rule, application of phase rule.	11&12	practice of 3&4
	17	General phase diagrams , concept of fusion/freezing curve.		
	18	Vaporization/condensation curve, Sublimation/deposition curve.		

	19	Triple point.		
7th	20	Classification of phase diagrams(Uniary, Binary and ternary.	13&14	Exp 5: To prepare colloidal solution of ferric hydroxide.
	21	Test of unit 2&3		
	22	Unit 4:physiorption and chemisorption.		
8th	23	Factors affecting adsorption of gases on solids. Difference between absorption and adsorption	15&16	Exp 6: Detection of iron metak in given sample of rust.
	24	Distinction between true solution , colloids and suspension. lyophilic and lyophobic.		
	25	Tyndall effect, Brownian movement.		
9th	26	Flocculation , deflocculation and coagulation of colloids.	17&18	Practice of 5&6
	27	Revision of unit 1unit 4		
	28	test of unit 4		
10th	29	Unit5: Definition of ceramics, application of ceramics.	19&20	Exp 7: preparation of crystals of Mohr's salt.
	30	Refractour and composite materials.		
	31	Glass-chemical composition . Application of soda, borosilicates and lead glass.		
11th	32	Definition of paint ,Varnished and enamels. constituents and advantages of these organic coating	21&22	Exp 8: Gravimetric estimation of ash content in the given sample of coal
	33	test of unit 5		
	34	Assignment of unit 1 and revision		
12th	35	Test of unit 1.	23&24	Practice of 7&8
	36	Assignment of unit 2 and revision		
	37	Test of unit 2.		Exp 9: Determination of percentage composition of volatile and nonvolatile matter
13th	38	Assignment of unit 3 and revision	25&26	
	39	Test of unit 3		
	40	Assignment of unit 4and revision		
14th	41	Test of unit 4	27&28	Exp 10: Gravimetric estimation on moisture in the given sample of coal
	42	Assignment of unit 5 and revision		

	43 Test of unit 5		
15th	44 full syllabus assignment	29&30	Viva - Voce
	45 full syllabus test		