LESSON PLAN			SESSION 2018-19
NAME: SHALU GARG DESIGNATION: LECTURER DISCIPLINE: CIVIL,ELECTRICAL,MECHANICAL, AUTO LESSON PLAN DURATION: 35 WEEKS (from 31st July to 30th April) LOAD: Theory(02), Practical(01)			
WEEK	**LECTURE DAY**	**THEORY TOPIC**	**PRACTICAL TOPIC**
WEEK-1	DAY-1	General introduction: Importance and scope of chemistry	Introduction about practicals, lab work.
	DAY-2	Definition of atom, molecule, symbol and significance of symbol	
WEEK-2	DAY-1	Valency, molecular formula, writing the formula of compound	Volumetric analysis and apparatus used their in
	DAY-2	Matter & their classification, difference between compound and mixture	
WEEK-3	DAY-1	Practice class for formula making	Viva-voce
	DAY-2	Calculation of mass percentage composition of elements	
WEEK-4	DAY-1	Practice of formula's and %age of element	To prepare standard solution of oxalic acid
	DAY-2	Fundamental particles of Atom, electron, proton and neutron, Atomic no ,mass and their related numerical	
WEEK-5	DAY-1	Isotope, isobar, isotone, difference between orbit and orbital.	Repeat 1st and 2nd experiment
	DAY-2	Principles of filling electrons in various orbital: a)Aufbau principle b) Hund's rule of maximum multiplicity c) Pauli's exclusion principle	
WEEK-6	DAY-1	Electronic configuration of atoms (unto Z=30),Bohr model	Viva -voce
	DAY-2	Test (unit-1)	
WEEK-7	DAY-1	Problem solving class of unit-2	To determine the strength of given sodium hydroxide solution by titrating against standard oxalic acid solution using phenolphthalein as an indicator
	DAY-2	Valence electron, Lewis symbol, Octet rule, chemical bond	

WEEK-8	DAY-1	Types of chemical bond: Ionic bond, covalent bond with examples	Viva- voce
	DAY-2	Practice of bonding in NaCl ,H2 and O2	
WEEK-9	DAY-1	Test of unit-2	Gravimetric analysis and apparatus used their in
	DAY-2	Problem solving classes related to unit-1 and unit-2	
WEEK-10	DAY-1	Revision class	Sessional week
	DAY-2	1st sessional test	
WEEK-11	DAY-1	Definition of solution,solute,solvent,acid ,base and salt	Viva-voce
	DAY-2	Concept of acidity and basicity,Conc.of solution-a)strength	
WEEK-12	DAY-1	Molarity and Normality, related numerical	Practice session for students
	DAY-2	Definition of pH and industrial applications of pH(numeicals excluded)	
WEEK-13	DAY-1	Revision class	To determine percentage of moisture in given sample of coal
	DAY-2	Problems solving class of numericals based on strength and molarity	
WEEK-14	DAY-1	Electronic concepts of oxidation and reduction Definition of terms : electrolytes , non-electrolytes with examples	Viva -voce
	DAY-2	Types of electrolytes: strong and weak with examples Definition of electrolysis	
WEEK-15	DAY-1	Faraday's laws of electrolysis	To determine percentage of ash in given sample of coal
	DAY-2	Industrial applications of electrolysis: electroplating, electrolytic refining, electrometallurgy	
WEEK-16	DAY-1	Test of unit-3(half syllabus)	Viva-voce

	DAY-2	Test of unit-3(half syllabus)	
WEEK-17	DAY-1	Definition of metals, non-metals , minerals , chief ores of iron , aluminium and copper	To determine percentage of volatile and non-volatile substances in given mixture
	DAY-2	Definition and types of metallurgy General states of metallurgy a)Crushing of ore b) pulverization of ore	
WEEK-18	DAY-1	Conc. Of ore by: (a)Gravity separation method b)Froth flotation method	Viva-voce
	DAY-2	(c) Oxidation of ore: 1) roasting 2) calcinations (d)reduction : 1)smelting 2)electrolytic reduction	
WEEK-19	DAY-1	(f)Refining of metal: 1) electrolytic refining 2) Mond's process	Practice session for students
	DAY-2	Alloy ,types and purpose of making alloying	
WEEK-20	DAY-1	Test of unit-4	Viva-voce
	DAY-2	Definition of Fuel, Classification of fuel on the basis of physical state and source	
WEEK-21	DAY-1	Definition of calorific value,HCV and LCV Characteristics of good Fuel,	Practice session for students of Experiment no.4,5,6
	DAY-2	Advantage of gaseous fuel,Proximate analysis of coal and its importance	
WEEK-22	DAY-1	Fuel quality rating- octane number and cetane number (definition only) Gaseous fuel : Composition, calorific Value and application of CNG,LPG and Biogas	Sessional week
	DAY-2	2^{nd} sessional test	
WEEK-23	DAY-1	Type of water : Soft and hard water Types of hardness of water	Viva –voce related to Experiment no.(1 to 7)
	DAY-2	Test of unit-5	
WEEK-24	DAY-1	Units of hardness of water : ppm, mg/L (with simple numerical)	To determine the viscosity of lubricant by using Redwood viscometer
	DAY-2	Disadvantages of using	

		hard water in boiler: Scale and sludge formation Boiler corrosion Caustic embrittlement	
WEEK-25	DAY-1	Qualities of drinking Water , revision of unit -6	Viva-voce
	DAY-2	Test of unit-6	
WEEK-26	DAY-1	Lubricant and lubrications Functions of lubricants Classification of lubricants: solid, semi- solid and liquid lubricants with examples	Practice session for students
	DAY-2	Types of lubrications- Hydrodynamic lubrication, Boundary lubrication with diagram	
WEEK-27	DAY-1	Physical properties of lubricants	Viva -voce
	DAY-2	Chemical properties of lubricants	
WEEK-28	DAY-1	Test of unit-8	To determine total acid number or total acid value of given lubricant
	DAY-2	Definition of polymer and Monomer with examples, Degree of polymerization	
WEEK-29	DAY-1	Uses of PE, PVC,PS Uses of Teflon, Nylon- 66, Bakelite	Viva-voce
	DAY-2	Addition and condensation polymer with examples	
WEEK-30	DAY-1	Definition of plastic, thermoplastic and thermosetting polymer with examples, Difference between thermoplastic and thermosetting polymers	Detection of Fe metal in the given solution of rust
	DAY-2	Uses of polymer and plastic in daily life and in industries	
WEEK-31	DAY-1	Test of unit-9(half syllabus)	Viva-voce
	DAY-2	Test of unit -9	
WEEK-32	DAY-1	Problem solving class related to 8^{th} and 9^{th}	Revision
	DAY-2	Test of unit -10	

WEEK-33	DAY-1	Test of unit-5	Revision
	DAY-2	Sample paper solving class	
WEEK-34	DAY-1	Problem solving class related to whole syllabus	Revision
	DAY-2	Problem solving class	
WEEK-35	DAY-1	Revision class	Revision
	DAY-2	Revision class	